The Encyclopedia of Neutrosophic Researchers

Florentin Smarandache
(editor and founder)

2nd Volume
2018

Pons Editions

Neutrosophic Science International Association

Florentin Smarandache (editor and founder)

The Encyclopedia of Neutrosophic Researchers

2nd Volume

This is the second volume of the *Encyclopedia of Neutrosophic Researchers*, edited from materials offered by the authors who responded to my invitation. The introduction contains a *short history of neutrosophics*, together with links to the main papers and books.

The authors who have published neutrosophic papers, books, or defended neutrosophic master theses or PhD dissertations and are not included in the two ENR volumes, are kindly invited to send their self-presentations or their CVs, a photo, and a list of neutrosophic publications to smarand@unm.edu and neutrosophy@laposte.net to be part of a third volume.

Florentin Smarandache
http://fs.unm.edu/neutrosophy.htm
President of The Neutrosophic Science International Association

Florentin Smarandache

(editor and founder)

The Encyclopedia of Neutrosophic Researchers

2nd Volume

Neutrosophic Science International Association

Gallup, NM, USA, 2018

Pons Editions

Brussels, Belgium, EU, 2018

Pons asbl
5, Quai du Batelage, Brussells, Belgium, European Union

Editor: Georgiana Antonescu
President of Pons asbl

Contents

History of Neutrosophic Theory and its Applications (updated)

Zadeh introduced the *degree of membership/truth* (T) in 1965 and defined the fuzzy set.

Atanassov introduced the *degree of nonmembership/falsehood* (F) in 1986 and defined the intuitionistic fuzzy set.

Smarandache introduced the ***degree of indeterminacy/neutrality*** (I) as independent component in 1995 (published in 1998) and he defined the neutrosophic set on three components:

(T, I, F) = (Truth, Indeterminacy, Falsehood), where in general T, I, F are subsets of the interval [0, 1]; in particular T, I, F may be intervals, hesitant sets, or single-values; see

F. Smarandache, *Neutrosophy / Neutrosophic probability, set, and logic", Proquest, Michigan, USA*, 1998, http://fs.unm.edu/eBook-Neutrosophics6.pdf;

reviewed in Zentralblatt fuer Mathematik (Berlin, Germany): https://zbmath.org/?q=an:01273000

and cited by Denis Howe in *The Free Online Dictionary of Computing*, England, 1999.

Neutrosophic Set and Logic are generalizations of classical, fuzzy, and intuitionistic fuzzy set and logic.

While Neutrosophic Probability and Statistics are generalizations of classical and imprecise probability and statistics.

Etymology.
The words "neutrosophy" and "neutrosophic" were coined/invented by F. Smarandache in his 1998 book.

Neutrosophy: A branch of philosophy, introduced by F. Smarandache in 1980, which studies the origin, nature, and scope of neutralities, as well as their interactions with different ideational spectra. Neutrosophy

considers a proposition, theory, event, concept, or entity <A> in relation to its opposite <antiA>, and with their neutral <neutA>.

Neutrosophy (as dynamic of opposites and their neutrals) is an extension of the Dialectics (which is the dynamic of opposites only).

Neutrosophy is the basis of neutrosophic logic, neutrosophic probability, neutrosophic set, and neutrosophic statistics.

Neutrosophic Logic is a general framework for unification of many existing logics, such as fuzzy logic (especially intuitionistic fuzzy logic), paraconsistent logic, intuitionistic logic, etc. The main idea of NL is to characterize each logical statement in a 3D-Neutrosophic Space, where each dimension of the space represents respectively the truth (T), the falsehood (F), and the indeterminacy (I) of the statement under consideration, where T, I, F are standard or non-standard real subsets of $]^{-}0, 1^{+}[$ with not necessarily any connection between them.

For software engineering proposals the classical unit interval [0, 1] may be used.

Degrees of Dependence and Independence between Neutrosophic Components

T, I, F are *independent components*, leaving room for incomplete information (when their superior sum < 1), paraconsistent and contradictory information (when the superior sum > 1), or complete information (sum of components = 1).

For software engineering proposals the classical unit interval [0, 1] is used.

For single valued neutrosophic logic, the sum of the components is:

$0 \leq t+i+f \leq 3$ when all three components are independent;

$0 \leq t+i+f \leq 2$ when two components are dependent, while the third one is independent from them;

$0 \leq t+i+f \leq 1$ when all three components are dependent.

When three or two of the components T, I, F are independent, one leaves room for incomplete information (sum < 1), paraconsistent and contradictory information (sum > 1), or complete information (sum = 1).

If all three components T, I, F are dependent, then similarly one leaves room for incomplete information (sum < 1), or complete information (sum = 1).

In general, the sum of two components x and y that vary in the unitary interval [0, 1] is:

$0 \leq x + y \leq 2 - d°(x, y)$, where $d°(x, y)$ is the degree of dependence between x and y, while

$d°(x, y)$ is the degree of independence between x and y.

In 2013 Smarandache *refined the neutrosophic set to n components*:

$(T_1, T_2, ...; I_1, I_2, ...; F_1, F_2, ...)$;

see http://fs.unm.edu/n-ValuedNeutrosophicLogic-PiP.pdf .

The Most Important Books and Papers in the Advancement of Neutrosophics

1995-1998 – *Smarandache generalizes the dialectics to neutrosophy;*
introduces the neutrosophic set/ logic/ probability/;
introduces the single-valued neutrosophic set (pp. 7-8);
http://fs.unm.edu/eBook-Neutrosophics6.pdf (online edition)

2002 – Introduction of special types of sets / probabilities / statistics / logics, such as:

- **intuitionistic set, paraconsistent set, faillibilist set, paradoxist set, pseudo-paradoxist set, tautological set, nihilist set, dialetheist set, trivialist set;**
- **intuitionistic probability and statistics, paraconsistent probability and statistics, faillibilist probability and statistics, paradoxist probability and statistics, pseudo-paradoxist probability and statistics, tautological probability and statistics, nihilist probability and statistics, dialetheist probability and statistics, trivialist probability and statistics;**

- **paradoxist logic (or paradoxism), pseudo-paradoxist logic (or pseudo-paradoxism), tautological logic (or tautologism)**;
  http://fs.unm.edu/DefinitionsDerivedFromNeutrosophics.pdf

2003 – *Introduction of* ***Neutrosophic Numbers*** *(a+bI, where I = indeterminacy, I^2 = I)*

2003 – *Introduction of* ***I-Neutrosophic Algebraic Structures***

2003 – *Introduction to* ***Neutrosophic Cognitive Maps***
http://fs.unm.edu/NCMs.pdf

2005 - *Introduction of* ***Interval Neutrosophic Set/Logic***
http://fs.unm.edu/INSL.pdf

2006 – Introduction of ***Degree of Dependence and Degree of Independence between the Neutrosophic Components*** *T, I, F*

http://fs.unm.edu/ebook-neutrosophics6.pdf (p. 92)

http://fs.unm.edu/NSS/DegreeOfDependenceAndIndependence.pdf

2007 – The Neutrosophic Set was extended [Smarandache, 2007] to ***Neutrosophic Overset*** (when some neutrosophic component is > 1), since he observed that, for example, an employee working overtime deserves a degree of membership > 1, with respect to an employee that only works regular full-time and whose degree of membership = 1;

and to ***Neutrosophic Underset*** (when some neutrosophic component is < 0), since, for example, an employee making more damage than benefit to his company deserves a degree of membership < 0, with respect to an employee that produces benefit to the company and has the degree of membership > 0;

and to and to ***Neutrosophic Offset*** (when some neutrosophic components are off the interval [0, 1], i.e. some neutrosophic component > 1 and some neutrosophic component < 0).

Then, similarly, the Neutrosophic Logic/ Measure/ Probability/ Statistics etc. were extended to respectively *Neutrosophic Over-/Under-/Off- Logic, Measure, Probability, Statistics* etc.

http://fs.unm.edu/SVNeutrosophicOverset-JMI.pdf

http://fs.unm.edu/IV-Neutrosophic-Overset-Underset-Offset.pdf

https://arxiv.org/ftp/arxiv/papers/1607/1607.00234.pdf

2007 – Smarandache *introduced the* ***Neutrosophic Tripolar Set*** and ***Neutrosophic Multipolar Set***

and consequently

– *the* ***Neutrosophic Tripolar Graph*** and ***Neutrosophic Multipolar Graph***

http://fs.unm.edu/eBook-Neutrosophics6.pdf (p. 93)

http://fs.unm.edu/IFS-generalized.pdf

2009 – *Introduction of* ***N-norm and N-conorm***

http://fs.unm.edu/N-normN-conorm.pdf

2013 - *Development of* ***Neutrosophic Probability*** *(chance that an event occurs, indeterminate chance of occurrence, chance that the event does not occur)*

http://fs.unm.edu/NeutrosophicMeasureIntegralProbability.pdf

2013 - ***Refinement of Neutrosophic Components*** *(T_1, T_2, ...; I_1, I_2, ...; F_1, F_2, ...)*

http://fs.unm.edu/n-ValuedNeutrosophicLogic-PiP.pdf

2014 – *Introduction of the* ***Law of Included Multiple Middle*** *(<A>; <neut1A>, <neut2A>, ...; <antiA>)*

http://fs.unm.edu/LawIncludedMultiple-Middle.pdf

2014 - *Development of* ***Neutrosophic Statistics*** *(indeterminacy is introduced into classical statistics with respect to the sample/population, or with respect to the individuals that only partially belong to a sample/population)*

http://fs.unm.edu/NeutrosophicStatistics.pdf

2015 - *Introduction of* ***Neutrosophic Precalculus and Neutrosophic Calculus***

http://fs.unm.edu/NeutrosophicPrecalculusCalculus.pdf

2015 – ***Refined Neutrosophic Numbers*** *($a + b_1I_1 + b_2I_2 + ... + b_nI_n$), where I_1, I_2, ..., I_n are subindeterminacies of indeterminacy I;*

2015 – *(t,i,f)-neutrosophic graphs;*

2015 - *Thesis-Antithesis-Neutrothesis, and Neutrosynthesis, Neutrosophic Axiomatic System, neutrosophic dynamic systems, symbolic neutrosophic logic, (t, i, f)-Neutrosophic Structures, I-Neutrosophic Structures, Refined Literal Indeterminacy, Quadruple Neutrosophic Algebraic Structures, Multiplication Law of Subindeterminacies*:

http://fs.unm.edu/SymbolicNeutrosophicTheory.pdf

2015 – *Introduction of the **subindeterminacies** of the form* $(I_0)^n = k/0$, *for* $k \in \{0, 1, 2, \ldots, n-1\}$, *into the ring of modulo integers* Z_n - called *natural neutrosophic indeterminacies* (Vasantha-Smarandache)

http://fs.unm.edu/MODNeutrosophicNumbers.pdf

2015 – Introduction of **Neutrosophic Crisp Set and Topology** (Salama & Smarandache)

http://fs.unm.edu/NeutrosophicCrispSetTheory.pdf

2016 – Introduction of **Neutrosophic Multisets** (as generalization of classical multisets)

http://fs.unm.edu/NeutrosophicMultisets.htm

2016 – Introduction of **Neutrosophic Triplet Structures** and **m-valued refined neutrosophic triplet structures** [Smarandache - Ali]

http://fs.unm.edu/NeutrosophicTriplets.htm

2016 – Introduction of **Neutrosophic Duplet Structures**

http://fs.unm.edu/NeutrosophicDuplets.htm

2017 - In biology Smarandache introduced the **Theory of Neutrosophic Evolution: Degrees of Evolution, Indeterminacy or Neutrality, and Involution**

http://fs.unm.edu/neutrosophic-evolution-PP-49-13.pdf

2017 - Introduction by F. Smarandache of **Plithogeny** (as generalization of Dialectics and Neutrosophy), and **Plithogenic Set/Logic/Probability/Statistics** (as generalization of fuzzy, intuitionistic fuzzy, neutrosophic set/logic/probability/statistics)

https://arxiv.org/ftp/arxiv/papers/1808/1808.03948.pdf

2018 - **Neutrosophic Psychology** (Neutropsyche, Refined Neutrosophic Memory: conscious, aconscious, unconscious, Neutropsychic Personality, Eros / Aoristos / Thanatos, Neutropsychic Crisp Personality)

http://fs.unm.edu/NeutropsychicPersonality-ed2.pdf

Neutrosophic Applications in:

Computer Science, Artificial Intelligence, Information Systems, Cybernetics, Theory Methods, Mathematical Algebraic Structures, Applied Mathematics, Automation, Control Systems, Big Data, Engineering, Electrical, Electronic, Philosophy, Social Science, Psychology, Biology, Biomedical, Engineering, Medical Informatics, Operational Research, Management Science, Imaging Science, Photographic Technology, Instruments, Instrumentation, Physics, Optics, Economics, Mechanics, Neurosciences, Radiology Nuclear, Medicine, Medical Imaging, Interdisciplinary Applications, Multidisciplinary Sciences etc.

[Xindong Peng and Jingguo Dai, *A bibliometric analysis of neutrosophic set: two decades review from 1998 to 2017*, Artificial Intelligence Review, Springer, 18 August 2018.]

Neutrosophic Sets and Systems (NSS) international journal started in 2013 and it is indexed by Scopus, Index Copernicus etc. (http://fs.unm.edu/NSS/).

Submit papers on neutrosophic set/logic/probability/statistics and their applications to the editor-in-chief: smarand@.edu .

Encyclopedia of Neutrosophic Researchers

The authors who have published or presented papers on neutrosophics and are not included in the *Encyclopedia of Neutrosophic Researchers* (ENR), vols. 1 and 2,

http://fs.unm.edu/EncyclopediaNeutrosophicResearchers.pdf

http://fs.unm.edu/EncyclopediaNeutrosophicResearchers2.pdf

are pleased to send their CV, photo, and List of Neutrosophic Publications to smarand@.edu in order to be included into the third volume of ENR.

Neutrosophic Researchers

Dr.

Muhammad Akram

Professor of Mathematics

Affiliation
Department of Mathematics
University of the Punjab
New Campus
54590 - Lahore / PAKISTAN

Profile

MSc degree in Mathematics and Computer Science, MPhil in (Computational) Mathematics, and PhD in Mathematics. Currently, Professor in the Department of Mathematics at the University of the Punjab, Lahore. Also served the Punjab University College of Information Technology as Assistant Professor and Associate Professor. Published 3 monographs and cca. 250 research articles in international peer-reviewed journals, including 160 ISI Indexed / IF Journal publications. Some papers have been published in high impact journals including *Knowledge-Based Systems, Information Sciences, Applied Soft Computing, Computers & Mathematics with Applications, Journal of Intelligent and Fuzzy Systems, International Journal of Fuzzy Systems, Discrete Dynamics in Nature and Society, Soft Computing and Neural Computing and Applications*. His current H-index on Google scholar is 20 and i10-index is 70. Editorial Member of 10 international academic journals. Reviewer/Referee for 105 International Journals, including *Mathematical Reviews* (USA) and *Zentralblatt MATH* (Germany).

Research Interests

Numerical algorithms for parabolic PDEs; Applications of fuzzy systems and related topics in graphs, hypergraphs, semirings, nearrings; Lie algebras, logical algebras; Fuzzy decision support / decision-making systems.

Neutrosophic Research

Neutrosophic Graphs; Neutrosophic Soft Graphs; Bipolar Neutrosophic Graphs; Bipolar Neutrosophic Hypergraphs; Neutrosophic Soft Hypergraphs; Interval-Valued Neutrosophic Graphs.

List of Publications in Neutrosophics

Muhammad Akram, Single-valued neutrosophic planar graphs. *International Journal of Algebra and Statistics*, 5(2) (2016), 157-167.

Muhammad Akram and Sundas Shahzadi, Neutrosophic soft graphs with application. *Journal of Intelligent and Fuzzy Systems*, 32(1)(2017) 841-858.

Muhammad Akram, Anam Luqman, Certain network models using single-valued neutrosophic directed hypergraphs. *Journal of intelligent and fuzzy systems*, 33(1)(2017), 575-588.

Muhammad Akram and M. Sitara, Bipolar neutrosophic graph structures. *Journal of the Indonesian Mathematical Society*, 23(1)(2017) 55-76.

Muhammad Akram and Maryam Nasir, Concepts of interval-valued neutrosophic graphs. *International Journal of Algebra and Statistics*, 6(1-2)(2017) 22-41.

Muhammad Akram and G. Shahzadi, Operations on single-valued neutrosophic graphs. *Journal of Uncertain Systems*, 11(3)(2017)176-196.

Muhammad Akram and M. Sitara, Representation of Graph Structure Based on I-V Neutrosophic Sets. *International Journal of Algebra and Statistics*, 6(1-2), 56-80, 2017.

Muhammad Akram and M. Sitara, Application of intuitionistic neutrosophic graph structures in decision-making. *Annals of Fuzzy Mathematics and Informatics*, 14(1)(2017), 1-27.

Muhammad Akram and M. Sarwar, Novel multiple criteria decision making methods based on bipolar neutrosophic sets and bipolar neutrosophic graphs. *Italian journal of pure and applied mathematics*, 38(2017), 301-322.

Muhammad Akram and Maryam Nasir, Interval-valued neutrosophic competition graphs. *Annals of Fuzzy Mathematics and Informatics*, 14(1)(2017), 99-120.

Muhammad Akram, Anam Luqman, Bipolar neutrosophic hypergraphs with applications. *Journal of intelligent and fuzzy systems*, 33(3)(2017), 1699-1713.

Muhammad Akram, Saba Siddique and B. Davvaz, New Concepts in neutrosophic graphs with application. *Journal of Applied Mathematics and Computing*, DOI: 10.1007/s12190-017-1106-3, 2017.

Muhammad Akram, Anam Luqman, A new decision-making method based on bipolar neutrosophic directed hypergraphs. *Journal of Applied Mathematics and Computing*, DOI 10.1007/s12190-017-1121-4, 2017.

Muhammad Akram and M. Sitara, Novel applications of single-valued neutrosophic graph structures in decision-making. *Journal of Applied Mathematics and Computing*, DOI: 10.1007/s12190-017-1084-5, 2017.

Muhammad Akram and Saba Siddique, Neutrosophic competition graphs with applications. *Journal of intelligent and fuzzy systems*, 33(2)(2017), 921-935.

Muhammad Akram and Anam Luqman, Intuitionistic single-valued neutrosophic hypergraphs. OPSEARCH, DOI: 10.1007/s12597-017-0306-9, 2017.

Muhammad Akram and Maryam Nasir, Certain bipolar neutrosophic competition graphs. *Journal of the Indonesian Mathematical Society*, 23(2), 2017.

Muhammad Akram and Sundas Shahzadi, Single-valued neutrosophic hypergraphs. *Journal of Applied and Engineering Mathematics*, 1-13, 2017.

Muhammad Akram and M. Sitara, Single-valued neutrosophic graph structures. *Applied Mathematics E-Notes*, 2017, 1-12.

Muhammad Akram and Maryam Nasir, Novel applications of bipolar neutrosophic competition graphs. *Applied Mathematics - A Journal of Chinese Universities*, 2017.

Muhammad Akram and M. Sitara, Interval-valued neutrosophic graph structures. *Punjab University Journal of Mathematics*, 2017.

Muhammad Akram, Saba Siddique and K. P. Shum, Certain properties of bipolar neutrosophic graphs. *Southeast Asian Bulletin of Mathematics*, 2017.

Muhammad Akram and Saba Siddique, Certain single-valued neutrosophic graphs. *The Journal of Fuzzy Mathematics*, 2017.

Muhammad Akram and K. P. Shum, Bipolar neutrosophic planar graphs. *Journal of Mathematical Research with Applications*, 2017.

Muhammad Akram, M. Nasir, and F. Smarandache, Competition Graphs Based on Intuitionistic Neutrosophic Environment. *Information*, 2017

Muhammad Akram, G. Shahzadi and A. Borumand Saeid, An application of single-valued neutrosophic sets in medical diagnosis. *Annals of Fuzzy Mathematics and Informatics*, 2017.

Muhammad Akram and G. Shahzadi, Bipolar neutrosophic graphs. Springer Book: Neutrosophic Sets, 2017.

Muhammad Akram, M. Sitara, and F. Smarandache, New concepts in intuitionistic neutrosophic graph structures. *Information*, 2017.

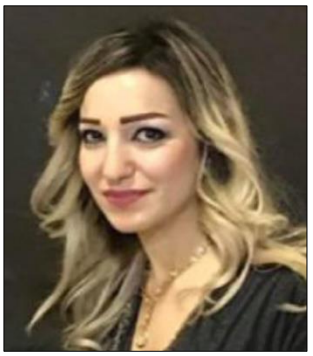
Muhammad Akram, M. Sitara, F. Smarandache, Graph Structures in Bipolar Neutrosophic Environment. *Mathematics*, 2017 (submitted).

PhD Candidate

Rafif Alhabib

Lecturer Assistant

Affiliation
Department of Statistics
Faculty of Science
Aleppo University
Hims / SYRIA



Profile

BSc in Statistics from the Faculty of Science, ALbaath University, in 2007. Master degree in Statistics from Aleppo University, with the thesis "A Study related to Marginal Distributions of Wiener Process Intersections Number for a Known Level", in 2013. Currently, PhD Student under the supervision of Dr. Mustafa Mazhar Rnna (Aleppo University, Faculty of Science, Statistics Department), and Prof. Dr. Haitham Farah (ALbaath University, Faculty of Science, Statistics Department), in collaboration with Prof. A. A. Salama (Egypt, Port Said University, Faculty of Science, Mathematics Department).

Research Interests

Neutrosophic Set; Neutrosophic Crisp Set; Neutrosophic Probability; Intuitionistic Neutrosophic Set.

List of Publications in Neutrosophics

Rafif Alhabib, Moustafa Mzher Ranna, Haitham Farah, A.A. Salama. Studying the random variables according to neutrosophic logic. *Albaath University Journal*, 2017. (Arabic Version).

Rafif Alhabib, Moustafa Mzher Ranna, Haitham Farah, A.A. Salama. Foundation of Neutrosophic Crisp Probability Theory. In *Neutrosophic Operational Research*, Volume III,

Edited by Florentin Smarandache, Mohamed Abdel-Basset and Dr. Victor Chang (Editors), pp. 50-62, 2018.

Rafif Alhabib, Moustafa Mzher Ranna, Haitham Farah, A.A. Salama. Studying the hypergeometric probability distribution according to neutrosophic logic (Under publication).

Rafif Alhabib, Moustafa Mzher Ranna, Haitham Farah, A.A. Salama. Neutrosophic Poisson Distribution (Under publication).

Rafif Alhabib, Moustafa Mzher Ranna, Haitham Farah, A.A. Salama. Neutrosophic Uniform Continuous Distribution (Under publication).

Riad Khider Al-Hamido

PhD researcher

Affiliation
College of Science
Department of Mathematics
Al Furat University
Homs / SYRIA

Profile

BSc in Algebra, Mathematics Department, Faculty of Science, University of Aleppo, 2005. High Diploma in Algebra, Mathematics Department, Faculty of Science, University of Aleppo, 2006. MSc in Algebra, Mathematics Department, Faculty of Science, University of Aleppo 2010. PhD Student in Topology, Mathematics Department, Faculty of Science, University of Al-Baath, since 2016. Full time Lecturer at College of Science, Department of Mathematics, Al Furat University, Daer Al-Zaour, Syria, since 2013.

Research Interest

Neutrosophic Topology.

List of Publications in Neutrosophics

Riad K. Al-Hamido. (2018): Neutrosophic Crisp Bi-topological Spaces, neutrosophic set and system, Communicated.

Riad K. Al-Hamido. (2018): New Neutrosophic crisp Bi-Sets. *Journal of Babylon University*, Al-Iraq, vol 26.

Riad K. Al-Hamido, Qays Hatem Imran, Karem A. Alghurabi and Taleb Gharibah. (2018): On Neutrosophic Crisp Semi Alpha Closed Sets, *Neutrosophic Set and System*, Communicated.

Q.H. Imran, F. Smarandache, R.K. Al-Hamido and R. Dhavaseelan: On Neutrosophic Semi-Open Sets, *Neutrosophic Set and System*, Vol. 18, 2017, pp. 37-43.

Dr.

Wadei Fares Al-Omeri

Assistant Professor

Affiliation
Mathematics Department
Faculty of Science
Al-Balqa Applied University
Salt 19117 / JORDAN

Profile

Bachelor degree in Mathematics & Statistics from Jordan University of Science and Technology (2002). Bachelor degree in Mathematics from Jadara University (2011). Master degree of Mathematics from UKM in Malaysia. Mathematics teacher in government schools in Jordan for secondary and primary stages (2003-2009). Assistant professor, Ajloun National University (2015-2017). Assistant professor, Al-Balqa Applied University (2017-present).

Research Interest

Fuzzy Parameterize Soft Multiset; Ideal Topological Group.

Neutrosophic Research

Head of NSIA branch of Jordan. Member of the editorial board of Neutrosophic Sets and Systems international journal & book series. Reviewed neutrosophic papers in different journals (Scopus and others).

List of Publications in Neutrosophics

Wadei Al-Omeri: Neutrosophic crisp Sets via Neutrosophic crisp Topological Spaces. *Neutrosophic Sets and Systems*, vol. 13, 2016, pp. 96-104. DOI: 10.5281/zenodo.570855

Wadei Al-Omeri, Florentin Smarandache, New Neutrosophic Sets via Neutrosophic Topological Spaces. In "Neutrosophic Operational Research", Volume I, Brussels (Belgium): Pons, 2017, pp. 189 – 209.

PhD Candidate

K. Anitha

Assistant Professor

Affiliation
V.V.Vanniaperumal College for Women
Virudhunagar, Tamilnadu / INDIA

Profile

BA from Madurai Kamaraj University (Madurai, Tamilnadu, India, 1990). MA from Madurai Kamaraj University (2001). MPhil from Madurai Kamaraj University (2007).

Research Interests

Soft Sets; Neutrosophic Sets; Single Valued Neutrosophic Sets.

Neutrosophic Research

Apply the theory of Single Valued Neutrosophic Soft Sets in real life decision-making problems.

List of Publications in Neutrosophics

Geetha P., Anitha K., Single Valued Neutrosophic Soft Over / Under / Offsets. *International Journal of Science and Reasearch* (ISSN Online: 2319-7064) Volume 5, Issue 11, Pages 1352-1356, November 2016.

Geetha P., Anitha K., Some New Operations on Single Valued Neutrosophic Sets. *Mathematical Sciences International Research Journal* (ISSN: 2278-8697), Volume 6, 214-217, SPL Issue 2017.

PhD Candidate

Sunita Bansal

Associate Professor

Affiliation
Manav Rachna International University
Sector-43, Aravali Hils
Delhi Surajkund Road, Faridabad
Haryana, 121001 / INDIA

Profile

BE (Civil Eng.) and ME (Structural Eng.) from PEC University, Chandigarh, in 1994, and MTech (Information Technology) from Tezpur University, Assam, in 2003. Currently pursuing PhD from Uttarakhand Technical University, Dehradun. Working as an Associate Professor in Manav Rachna International University, Faridabad, India. 17 years of academic and industrial experience.

Research Interests

Material Modeling; Green Buildings; Neural Networks; Fuzzy Logic.

List of Publications in Neutrosophics

Srijit Biswas, Sunita Bansal, Anjali Gupta: Neutrosophic Group Decision for Modeling of Post Earthquake Disaster Assesssment. *Engineering Science and Technology: An International Journal* (ESTIJ) (Accepted) (March-2017) (SCOPUS).

Srijit Biswas, Sunita Bansal, Anjali Gupta: Neutrosophic fuzzy approach for assessment of health hazardous of ragpickers. Communicated to 'International Journal of Technology (IJTech)' (Feb 2017) (SCOPUS).

PhD Candidate

Tuhin Bera

Assistant Teacher of Mathematics

Affiliation
Department of Mathematics
Panskura Banamali College
Panskura RS, Midnapore (East)
West Bengal – 721152 / INDIA

Profile

Bachelor of Science in Mathematics and Master of Science in Mathematics, both from the University of Kalyani, West Bengal, India. Pursuing Doctoral degree from the Department of Mathematics, Panskura Banamali College, India, under the supervision of Dr. Nirmal Kumar Mahapatra, in Neutrosophic Environment.

Research Interests

Algebraic Structures over Soft Set; Fuzzy Set; Intuitionistic Fuzzy Set Neutrosophic Set.

Neutrosophic Research

Neutrosophic numbers and its application in optimization.

List of Publications in Neutrosophics

T. Bera and N. K. Mahapatra, On neutrosophic soft function. *Annals of Fuzzy Mathematics and Informatics*, 12(1), 101-119, (2016).

T. Bera and N. K. Mahapatra, Introduction to neutrosophic soft groups. *Neutrosophic Sets and Systems*, 13, 118-127, (2016), doi.org/10.5281/zenodo.570845

T. Bera and N. K. Mahapatra, (α,β,γ)-cut of neutrosophic soft set and it's application to neutrosophic soft groups. *Asian Journal of Math. and Compt. Research*, 12(3), 160-178, (2016).

T. Bera and N. K. Mahapatra, On neutrosophic soft rings. OPSEARCH, 1-25, (2016), DOI 10.1007/ s12597-016-0273-6.

T. Bera and N. K. Mahapatra, On neutrosophic normal soft groups. *Int. J. Appl. Comput. Math.*, 2(4), (2016), DOI 10.1007/s40819-016-0284-2.

T. Bera and N. K. Mahapatra, Introduction to neutrosophic soft topological space. OPSEARCH, March, 2017, DOI 10.1007/s12597-017-0308-7.

T. Bera and N. K. Mahapatra, On neutrosophic soft linear spaces. *Fuzzy Information and Engineering*, 9, 299-324, (2017).

T. Bera and N. K. Mahapatra, Neutrosophic soft matrix and its application to decision making. *Neutrosophic Sets and Systems*, 18, 03-15, (2017).

T. Bera and N. K. Mahapatra, On neutrosophic soft metric spaces. *International Journal of Advances in Mathematics*, 2018(1), 180-200, (2018).

T. Bera and N. K. Mahapatra, On neutrosophic soft topological space. *Neutrosophic Sets and Systems*, 19, 03-15, (2018).

T. Bera and N. K. Mahapatra, On neutrosophic soft field. *International J. of Math. Trends and Technology*, 56(7), 472-494, (2018).

T. Bera and N. K. Mahapatra, On neutrosophic soft prime ideal. *Neutrosophic Sets and Systems*, 20, 54-75, (2018).

T. Bera and N. K. Mahapatra, Compactness and continuity on neutrosophic soft metric space. *International J. of Advances in Mathematics*, 2018(4), 1-24, (2018).

Msc.

Ameirys Betancourt Vázquez

Professor of Computer Engineering

Affiliation
Polytechnic Institute of Technology and Science
Luanda / ANGOLA

Profile

Master of Science (in Project Management) and Informatics Engineer. Currently professor at the Polytechnic Institute of Technology and Science of Luanda, Angola.

Research Interests

Neutrosophic Cognitive Maps; Multicriteria Decision Support.

Neutrosophic Research

Neutrosofic Cognitive Maps; Requirement Engineering.

List of Publications in Neutrosophics

Ameirys Betancourt-Vázquez, Karina Pérez-Teruel, Modelado y análisis las interdependencias entre requisitos no funcionales mediante mapas cognitivos neutrosóficos. *Neutrosophic Computing and Machine Learning*, 2018.

Ameirys Betancourt-Vázquez, Maikel Leyva-Vázquez, Karina Pérez-Teruel. Neutrosophic cognitive maps for modeling project portfolio interdependencies. *Critical Review*, 2015, 1;10:40-4.

Ameirys Betancourt-Vázquez, Karina Pérez-Teruel, Maikel Leyva-Vázquez. Modeling and analyzing non-functional requirements interdependencies with neutrosofic logic. *Neutrosophic Sets and Systems*, 2015:44.

Dr.

Mangal G. Bhatt

Principal

Affiliation
Shantilal Shah Engineering College
(State Government Institute)
New Sidsar Campus
Post Vartej, Bhavnagar, Gujarat
364060 / INDIA

Profile

Working as Principal at Shantilal Shah Engineering College, Bhavnagar, 29 years of work experience, of which 6 years in Industries and 23 years of teaching at UG and PG classes of engineering and management. Graduated in Mechanical Engineering from Bhavnagar University, MA in Industrial Engineering & Operations Research from IIT, Bombay, PhD in Mechanical Engineering from Bhavnagar University. MA in Business Administration from Indira Gandhi National Open University, New Delhi, with specialization in Operations Management. Published more than 40 articles. PhD supervisor for the Faculty of Engineering at Gujarat Technological University, Ahmedabad.

Research Interests

Optimization Techniques for Manufacturing Engineering; Industrial Engineering; Operations Management; Lean Manufacturing; Supply Chain Management; Quality Engineering.

Neutrosophic Research

Implemented Entropy Weight based multi-attribute decision-making (MADM) with Fuzzy Single Valued Neutrosophic Set (F-SVNS) with technique carried out with conversion rule of crisp or fuzzy number into single valued neutrosophic set.

M. Bhatt, N. Nirmal (2016). Selection of Automated Guided Vehicle using Single Valued Neutrosophic Entropy Based Multi Attribute Decision Making. New Trends in Neutrosophic Theory and Applications. Pons Editions, Brussels, Belgium, European Union, ISBN: 978- 1-59973-498-9, 105-114.

N. Nirmal, M. Bhatt (2018). Development of Fuzzy- Single Valued Neutrosophic MADM Technique to Improve Performance in Manufacturing and Supply Chain Functions, Neutrosophic Sets in Multiple Criteria Decision Making, Studies in Fuzziness and Soft Computing. Springer International Publishing, Accepted Chapter.

Sonal Bhugra

Assistant Professor

Affiliation
Manav Rachna International University
Sector-43, Aravali Hils
Delhi Surajkund Road, Faridabad
Haryana, 121001 / INDIA

Profile

MTech in Transportation Engineering from Maharishi Dayanand University and AMIE (Civil) from Institute of Engineers (India). Currently working as Assistant Professor, Department of Civil Engineering, Manav Rachna International University, Faridabad. 8 years teaching experience. Published 7 research papers.

Research Interests

Fuzzy Logic; Fuzzy Set Theory; Neutrosophic Fuzzy Logic; Fuzzy-EIA Modeling; Integrated Transportation Engineering System.

List of Publications in Neutrosophics

Srijit Biswas, Sonal Bhugra: Use of Neutrosophic Logic in defining river water quality of Yamuna. *International Journal of Constructive Research in Civil Engineering* (IJCRCE), Volume 2, Issue 4, PP 20-26 (2016).

Dr.

Srijit Biswas

Professor

Affiliation
Manav Rachna International University
Sector-43, Aravali Hils
Delhi Surajkund Road, Faridabad
Haryana, 121001 / INDIA

Profile

PhD from Jadavpur University and BE & ME from Calcutta University, India. Fellowship from Institute of Engineers (India). Working as Professor, Department of Civil Engineering, Manav Rachna International University, Faridabad. More than 29 years experience. Published 45 research papers. Member of editorial boards of many reputed international journals, and authored a book on the area of 'Fuzzy EIA' for application in civil engineering field, published from Germany.

List of Publications in Neutrosophics

Srijit Biswas, Sonal Bhugra: Use of Neutrosophic Logic in defining river water quality of Yamuna. *International Journal of Constructive Research in Civil Engineering* (IJCRCE), Volume 2, Issue 4, PP 20-26 (2016).

Srijit Biswas, Sunita Bansal, Anjali Gupta: Neutrosophic Group Decision for Modeling of Post Earthquake Disaster Assesssment. *Engineering Science and Technology: An International Journal* (ESTIJ) (Accepted) (March 2017) (SCOPUS).

Srijit Biswas: Use of neutrosophic logic in assessment of sanitary condition near by landfill site; Communicated to *International Journal of Applied Engineering Research* (IJAER) (Feb 2017) (SCOPUS).

Srijit Biswas, Sunita Bansal, Anjali Gupta: Neutrosophic fuzzy approach for assessment of health hazardous of ragpickers, Communicated to *International Journal of Technology* (IJTech) (Feb 2017) (SCOPUS).

Postdoctoral Research Fellow

Hashem Bordbar

Lecturer

Affiliation
Department of Mathematics
Shahid Beheshti University
Tehran / IRAN

Profile

Postdoctoral Research Fellow at Shahid Beheshti University, Tehran, Iran. PhD from Shahid Bahonar University (Major: Hyperstructure Algebra, Ordered Algebra, Lattice Theory) with the thesis: "(weak)-Closure operations on ideals of a BCK-algebra" (2017). MSc from Kharazmi University in Commutative Algebra, with the thesis: "Cohen Macaulayness versus the vanishing of the first Hilbert coefficient of parameter ideals" (2011).

Research Interests

Commutative Algebra; Closure Operations; Hyperstructure Algebra; Ordered Algebra; Coding Theory; Cryptography.

Neutrosophic Research

Collaboration with Rajab Ali Borzooei, Florentin Smarandache and Young Bae Jun to develop a general model of neutrosophic ideals in BCK/BCI-algebras based on neutrosophic points.

List of Publications in Neutrosophics

Young Bae Jun, Florentin Smarandache and Hashem Bordbar, "Neutrosophic N-structures applied to BCK/BCI-algebras". *Information*, Vol. 4, No. 8 (2017), 128.

Dr.

Naim Çağman

Professor

Affiliation
University of Gaziosmanpasa
Tokat / TURKEY

Profile

BSc from Mathematics Department, Istanbul University, Istanbul, Turkey, in 1991. MSc degree from the Wales Swansea University, in 1996. Earned PhD in 2000 from the University of Leeds. Since 2000, he has been working on the fuzzy sets, rough sets, soft sets, Neutrosophic sets and their applications at the University of Gaziosmanpasa in Tokat, Turkey.

Research Interests

Fuzzy Sets; Rough Sets; Soft Sets; Neutrosophic Sets.

List of Publications in Neutrosophics

Irfan Deli, Selim Eraslan, Naim Çağman: ivnpiv-Neutrosophic soft sets and their decision making based on similarity measure. *Neural Computing and Applications* (2016) 1-17, DOI 10.1007/s00521-016-2428-z (Indexed in SCI)

İrfan Deli, İrfan Şimşek and Naim Cağman: A Multiple Criteria Decision Making Method on Single Valued Trapezoidal Neutrosophic Numbers Based on Einstein Operations, Proceedings of The 4th International Fuzzy Systems Symposium (FUZZYSS'15), pp. 272-277, 5-6 November 2015, Yildiz Technical University, İstanbul.

Dr.

Vildan Çetkin

Assistant Professor

Affiliation
Department of Mathematics
Kocaeli University
Umuttepe Campus
41380 Kocaeli / TURKEY

Profile

Born in 1984, in Turkey. Graduated from the University of Kocaeli with BSc, MSc and PhD degrees in Mathematics. Erasmus Exchange Student at the University of Latvia (2011-2012). Assistant Professor in the Topology Division of Mathematics Department from 2014 to 2018, and Associate Professor in the same department since 2018. Erasmus Coordinator of the Mathematics Department of Kocaeli University. Referee for some respectful journals. Published more than 30 research papers in high quality journals. Editorial board member of the *International Journal of Pure Mathematical Sciences*.

Research Interests

Single Valued Neutrosophic Sets; Algebra on Neutrosophic Sets; Fuzzy Sets; Fuzzy Topological Structures; Soft Sets and Soft Topological Structures; Fuzzy Metric.

Neutrosophic Research

Investigated algebraic structures such as group, ring, module, field and etc. by using single-valued neutrosophic sets as the extension of the works on fuzzy and intuitionistic fuzzy cases.

V. Çetkin, H. Aygün. (2015). An approach to neutrosophic subgroup and its fundamental properties. *Journal of Intelligent and Fuzzy Systems*, 29, 1941-1947.

V. Çetkin, B. P. Varol, H. Aygün. (in press) On neutrosophic submodules of a module. *Hacettepe Journal of Mathematics and Statistics*. DOI:10.15672/HJMS.2017.437.

V. Çetkin, H. Aygün. (2016). A note on neutrosophic subring of a ring, 5th International Eurasian Conference on Mathematical Sciences and Applications. 16-19 August Belgrad

B. P. Varol, V. Çetkin, H. Aygün. (2017). A note on neutrosophic field. International Conference on Mathematics and Engineering.

B. P. Varol, V. Çetkin, H.Aygün. (2017). Some results on neutrosophic matrix. International Conference on Mathematics and Engineering.

B. P. Varol, V. Çetkin, H. Aygün. (2017). On neutrosophic linear spaces. 13th Algebraic Hyperstructures and its Applications Conference.

V. Çetkin, H. Aygün. (2018) An approach to neutrosophic ideals. *Universal Journal of Mathematics*, 1 (2), 132-136.

Chang Xing Fan

Lecturer

Affiliation
Department of Computer Science
Shaoxing University
508 Huancheng West Road,
Shaoxing, Zhejiang 312000 / P.R. CHINA

Profile

Born in November 1977. Graduated from the Department of Automation of Jiangxi Technology University, Bachelor of Engineering, July 2000. Graduated from the Department of Software of Tongji University, Master's Degree in Computer Science and Application, July 2009. Working in the Department of Computer Science and Engineering of Shaoxing University since July 2000. Presided three municipal projects. Participated in a national project of natural science. Published more than twenty papers in domestic and foreign journals, and one textbook.

Research Interests

Neutrosophic Set; Fuzzy Decision Making; Algorithm Optimization.

List of Publications in Neutrosophics

Chang Xing Fan and Jun Ye: The Cosine Measure of Refined-Single Valued Neutrosophic Sets and Refined-Interval Neutrosophic Sets for Multiple Attribute Decision-Making. *J. Intell. Fuzzy Syst.* 2017, 33, 2281–2289, DOI: 10.3233/JIFS-17270.

Chang Xing Fan et al.: Bonferroni Mean Operators of Linguistic Neutrosophic Numbers and Their Multiple Attribute Group Decision-Making Methods. *Information* 2017, 8, 107.

Chang Xing Fan, En Fan and Jun Ye: The Cosine Measure of Single-Valued Neutrosophic Multisets for Multiple Attribute Decision-Making. *Symmetry* 2018, 10, 154; DOI: 10.3390/sym10050154

Chang Xing Fan et al.: Heronian Mean Operator of Linguistic Neutrosophic Cubic Numbers and Their Multiple Attribute Decision Making Methods, Mathematical Problems in Engineering. Accepted.

Chen Jiqian

Postgraduate Student

Affiliation
Department of Civil Engineering
Shaoxing University
508 Huancheng West Road
Shaoxing, Zhejiang Province / P.R. CHINA

Profile

Civil engineering at Zhejiang Ocean University (2011-2015). Studying for a master's degree at Shaoxing University, beginning to do research about neutrosophic applications in civil engineering.

Neutrosophic Research

The application of neutrosophic topics to the expression of joint roughness coefficient and the analysis of its characteristics.

Research Interests

Neutrosophic Numbers; Neutrosophic Interval Statistical Numbers; Neutrosophic Statistics.

List of Publications in Neutrosophics

J. Q. Chen, J. Ye. (2016). A Projection Model of Neutrosophic Numbers for Multiple Attribute Decision Making of Clay-Brick Selection. *Neutrosophic Sets and Systems* 12, 12-18.

J. Ye, J. Q. Chen, R. Yong, et al. (2017). Expression and Analysis of Joint Roughness Coefficient Using Neutrosophic Number Functions. *Information* 8(2):69.

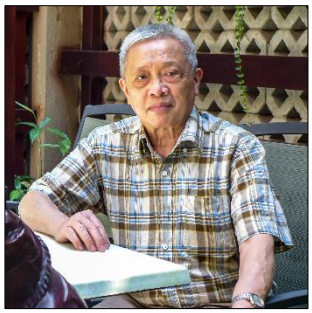
J. Q. Chen, J. Ye, S. G. Du, et al. (2017). Expressions of Rock Joint Roughness Coefficient Using Neutrosophic Interval Statistical Numbers. *Symmetry* 9(123):7.

J. Q. Chen, J. Ye, S. G. Du. (2017). Vector Similarity Measures Between Refined Simplified Neutrosophic Sets and Their Multiple Attribute Decision-Making Method. *Symmetry* 9(153):13.

J. Q. Chen, J. Ye. (2017). Some Single-Valued Neutrosophic Dombi Weighted Aggregation Operators for Multiple Attribute Decision-Making. *Symmetry* 9(82):12.

Dr.

Bui Cong Cuong



Affiliation
Vietnam Academy of Science and Technology
Hanoi / VIETNAM

Profile

Born in October 1939, at Phan thiet City, Vietnam. Graduated from the Faculty of Mathematics at the University of Sciences, Hanoi National University, in 1962. Earned a PhD in Mathematics from the Leningrad State University, USSR, in 1969. Continued postdoctoral studies at the Institute of Computer Science, the Polish Academy of Sciences, Warsaw, Poland (1981-1984). From 1984, Associative Professor of Mathematics of the Institute of Mathematics, Vietnam Academy of Science and Technology. Received DrSc in Mathematics at the Warsaw University, Warsaw, Poland in 1985. Organizer and Chair of the Program Committee of the "Autum School on Fuzzy Systems with Applications" n. 1 , 8/2000 , Institute of Mathematics , the "Autum School ..", n. 2, 8/2001, the "Autum School..", n. 3, 8/2003, the "Autum School..."n. 4, 8/2005. Organizer and Chair of the Program Committee of the Vietnam First Simposium on Fuzzy Systems, Neural Networks with Applications, 8-9/11/2006, Hanoi.

Research Interests

Optimization and Systems; Databases; Artificial Neural Network; Artificial Intelligence.

List of Publications in Neutrosophics

Bui Cong Cuong, Pham Hong Phong, Florentin Smarandache, Standard Neutrosophic Soft Theory: Some first results. *Neutrosophic Sets and Systems*, vol. 12, 2016, ISSN 2331-6055, pp. 80-91.

Dr.

C. Antony Crispin Sweety

Assistant Professor

Affiliation
Department of Mathematics
Nirmala College for Women
Coimbatore, Tamilnadu / INDIA

Profile

Ph. in Mathematics from Bharathiar University. Currently working as an Assistant Professor at Nirmala College for Women, Coimbatore, in Tamilnadu, India.

Research Interests

Fuzzy Sets; Neutrosophic Sets; Rough Sets; Soft Sets; Topology; Neutrosophic Transportation Problem.

Neutrosophic Research

A Study on Neutrosophic Rough Sets and its Applications. Robust Ranking Technique for solving Transportation Problem in Neutrosophic environment.

List of Publications in Neutrosophics

C. Antony Crispin Sweety and I. Arockiarani. Rough sets in Neutrosophic Approximation Space. *Annals of Fuzzy Mathematics and Informatics* 13 (4) 2017 449-463.

I. Arockiarani and C. Antony Crispin Sweety. Rough Neutrosophic Relations on two universal sets. *Bulletin of Mathematics and Statistical Research* 4(1) (2016) 203-216.

I. Arockiarani and C. Antony Crispin Sweety. Rough Neutrosophic Sets in a Lattice. *International Journal of Applied Research* 2(5) (2016) 143-150.

I. Arockiarani and C. Antony Crispin Sweety. Soft Rough Sets in approximation spaces. *Elixir International Journal* 98(2016) 42701- 42705.

C. Antony Crispin Sweety and I. Arockiarani. Neutrosophic Rough Set Algebra. *International Journal of Mathematics Trends and Technology* 38(3) (2016) 154-163.

C. Antony Crispin Sweety, I. Arockiarani. On algebraic properties of neutrosophic rough set relations. *International Journal of Multidisciplinary Research and Development* 3(10) (2016) 115-122.

C. Antony Crispin Sweety and I. Arockiarani. Generalized Fuzzy Neutrosophic Soft Sets and Its Application in Decision Making. *International Journal of Advanced Research in Computer Science and Engineering* 6(10) (2016) 54-57.

C. Antony Crispin Sweety and I. Arockiarani. Topological Structures of fuzzy neutrosophic rough sets. *Neutrosophic Sets and Systems* 9 (2015) 50-57.

C. Antony Crispin Sweety and I. Arockiarani, Fuzzy neutrosophic rough sets. *Journal of Global Research in Mathematical Archives* 2 (3) (2014) 44-50.

Papers Submitted

C. Antony Crispin Sweety and N. Aswitha. A New Method of Solving Neutrosophic Transportation Problem via Robust Ranking Technique and Allocation Table Method, *Neutrosophic Sets and System*.

Conferences

C. Antony Crispin Sweety and I. Arockiarani. Neutrosophic Topologies in Crisp Approximation Spaces. International Conference on Mathematics and Computer Science. Nirmala College for Women, India, 2016.

C. Antony Crispin Sweety and I. Arockiarani. Generalized Fuzzy Neutrosophic Soft Sets and Its Application in Decision Making. International Conference on Mathematical Sciences, Madurai Kamaraj University, India, 2014.

C. Antony Crispin Sweety and I. Arockiarani. Relations on Fuzzy Neutrosophic soft Set. UGC – sponsored National conference on Emerging trends in advanced mathematics. Jyothi Nivas College (Autonomous), Bangalore, 2014, India

Jingguo Dai

Teacher

Affiliation
School of Information Science and Engineering
Shaoguan University
No 288, Daxue Road, Shaoguan
Guangdong Province 512005 / P. R. CHINA

Profile

Teacher in the School of Information Science and Engineering, Shaoguan University. Published more than five SCI-indexed papers.

Research Interests

Neutrosophic set; soft computing; multi-criteria decision making; pattern recognitions.

List of Publications in Neutrosophics

X.D.Peng, J.G. Dai. Algorithms for interval neutrosophic multiple attribute decision making based on MABAC, similarity measure and EDAS. *International Journal for Uncertainty Quantification*, 2017, 7(5), 395-421.

X.D.Peng, J.G. Dai. Approaches to single-valued neutrosophic MADM based on MABAC, TOPSIS and new similarity measure with score function. *Neural Computing and Applications*, 2018, 29(10), 939-954.

X.D. Peng, J.G. Dai. A Bibliometric Analysis of Neutrosophic Set: Two Decades Review from 1998-2017. *Artificial Intelligence Review*, DOI: 10.1007/s10462-018-9652-0, 2018.

.

Dr.

Sujit Das

Assistant Professor

Affiliation
Dept. of Computer Science and Engineering
Dr. B. C. Roy Engineering College, Durgapur
713206 - West Bengal / INDIA

Profile

PhD in Computer Science and Engineering from National Institute of Technology Durgapur, with 14 years teaching experience and 6 years of research experience. Published (or contributed to) many quality papers in referred journals and presented in various international conferences. Reviewer for various international journals and conferences. Awarded best conference papers awards in CSO 2014, Beijing and FICTA 2015, Durgapur.

Research Interests

Fuzzy Sets; Soft Sets; Evolutionary Algorithms; MCDM Techniques; Artificial Intelligence; Neural Network; Soft Computing Based Techniques; Machine Learning; Neutrosophic Logic.

List of Publications in Neutrosophics

Sujit Das, Saurabh Kumar, Samarjit Kar, Tandra Pal: Group decision making using neutrosophic soft matrix: An algorithmic approach. *Journal of King Saud University - Computer and Information Sciences*, 2017, DOI: 10.1016/j.jksuci.2017.05.001.

Dr.

R. Dhavaseelan

Assistant Professor

Affiliation
Department of Mathematics
Sona College of Technology
Salem 636005
Tamil Nadu / INDIA

Profile

PhD from Periyar University, India. More than 8 years of teaching experience and 7 years of research experience. Currently working as Assistant Professor at Sona College of Technology, Salem, India.

Research Interests

Topology; Discrete Mathematics; Graph Theory; Pure Mathematics; Fuzzy Topology; General Topology; Graceful Labelling; Fuzzy Mathematics; Graphs; Intuitionistic Fuzzy Topology; Combinatorics; Lattice Theory; Set Theory; Neutrosophic Sets; Neutrosophic Graphs; Single Valued Neutrosophic Graphs; Neutrosophic Topology.

List of Publications in Neutrosophics

R. Dhavaseelan, R. Vikramaprasad and V. Krishnaraj: Certain Types of Neutrosophic Graphs. *Int. J. of Mathematical Sciences and Applications*, Vol. 5, No. 2 (2015), pp. 333 – 339.

R. Dhavaseelan, Saeid Jafari, R. M. Latif, F. Smarandache: Neutrosophic rare α-continuity. In "New Trends in Neutrosophic Theory and Applications", Volume II, Brussels, Pons, 2017.

R. Dhavaseelan and Saeid Jafari: Generalized Neutrosophic Closed Sets. In "New Trends in Neutrosophic Theory and Applications", Volume II, Brussels, Pons, 2017.

R. Dhavaseelan, Saeid Jafari, C. Ozel, M. A. Al-Shumrani: Generalized Neutrosophic contra continuous. In "New

Trends in Neutrosophic Theory and Applications", Volume II, Brussels, Pons, 2017.

V. Krishnaraj, R. Vikramaprasad, R. Dhavaseelan: Self Centered Single Valued Neutrosophic Graphs. *International Journal of Applied Engineering Research*, ISSN 0973-4562, Volume 12, Number 24 (2017) pp. 15536-15543.

R. Shakthivel, V. Krishnaraj, R. Vikramaprasad, R. Dhavaseelan: Balanced Neutrosophic Graphs. *Journal of Advanced Research in Dynamical and Control Systems*, Vol. 9, Issue 4, pp. 371-378.

Dr.

En Fan

Lecturer

Affiliation
Department of Computer Science and Engineering
Shaoxing University
Huancheng West Road 508, Yuecheng District
Shaoxing 312000 / P.R. CHINA

Profile

BSc degree in Electronic Information Science and Technology from Hubei Engineering University in 2002. MSc in Signal and Information Processing from Nanchang Hangkong University in 2006. PhD in Signal and Information Processing from Xidian University in 2015. In 2016, worked as a postdoctoral researcher with College of Information Engineering at Shenzhen University, China. Currently, affiliated with Department of Computer Science and Engineering at Shaoxing University. Member of Information Fusion section in Chinese Society of Aeronautics and Astronautics (CSAA). Worked as reviewers for several SCI journals and conferences, published more than 20 journal papers, and presided 4 grant funded projects by 2017.

Research Interests

Intelligent Information Processing; Multiple Sensor Data Fusion; Multiple Target Tracking.

Neutrosophic Research

Firstly applied neutrosophic set into multiple target tracking research area in 2015. Published several research works based on neutrosophic set, such as track initiation, track association and track fusion. Presided Youth Fund of National Natural Science Fund 1 item, "Neutrosophic set-based multisensory anti-bias track association and track fusion on aerial targets" (No. 61703280) in 2017.

E. Fan, W.X. Xie, J.H. Pei, K.L. Hu, X.B. Li. Neutrosophic Hough transform-based track initiation method in multiple target tracking. IEEE Access, vol. 6, pp. 16068-16080, 2018.

E. Fan, K.L. Hu, X.B. Li. Review of neutrosophic-set-theory-based multiple-target tracking methods in uncertain situations. At the third International Conference on Measurement, Information and Control, Harbin, China, pp. 1-8, August 2018.

K.L. Hu, E. Fan, J. Ye, J.T. Pi, L.P. Zhao, S.G. Shen. Element-weighted neutrosophic correlation coefficient and its application in improving CAMShift tracker in RGBD video. *Information*, vol. 9, no. 5, Article ID 126, 16 Pages, 2018.

K.L. Hu, E. Fan, J. Ye, C.X. Fan, S.G. Shen, Y.Z. Gu. Neutrosophic similarity score based weighted histogram for robust mean-shift tracking. *Information*, vol. 8, no. 4, Article ID 122, 14 Pages, 2017.

K.L. Hu, E. Fan, J. Ye, C.X. Fan, S.G. Shen, Y.Z. Gu. A method for visual foreground detection using the correlation coefficient between multi-criteria single valued neutrosophic multisets. *Chinese Journal of Sensors and Actuators*, vol. 5, no. 31, pp. 738-745, 2018.

K.L. Hu, E. Fan, J. Ye, S.G. Shen, Y.Z. Gu. A scale adaptive visual object tracking algorithm based on weighted neutrosophic similarity coefficient. *Telecommunications Science*, vol. 5, pp. 52-62, 2018.

C.X. Fan, E. Fan, J. Ye. The cosine measure of single-valued neutrosophic multisets for multiple attribute decision-making. *Symmetry*, vol. 10, Article ID 153, 13 Pages, 2018.

K.L. Hu, J. Ye, E. Fan, S.G. Shen, L.J. Huang, J.T. Pi. A novel object tracking algorithm by fusion color and depth information based on single valued neutrosophic cross-entropy. *Journal of Intelligent and Fuzzy Systems*, vol. 32, no. 3, pp. 1775-1786, 2017.

C.X. Fan, J. Ye, K.L. Hu, E. Fan. Bonferroni mean operators of linguistic Neutrosophic Numbers and Their Multiple Attribute Group Decision-Making Methods. *Information*, vol. 8, no. 3, Article ID 107, 11 Pages, 2017.

E. Fan, W.X. Xie, J.H. Pei. Neutrosophic Hough transform-based track initiation method. At the 8th Chinese Information Fusion Conference, Xi'an, China, pp. 152-157, July 2017.

Dr.

Harish Garg

Assistant Professor

Affiliation
School of Mathematics
Thapar University Patiala – 147004
Punjab / INDIA

Profile

Born in 1985. Bachelor of Science - Computer Applications (2003 – 2006), Master in Mathematics (2006 – 2008), Doctor of Philosophy (2009 – 2013) in Applied Mathematics with specialization "Reliability theory with soft computing techniques", from Indian Institute of Technology Roorkee, India. Since July 2013, Assistant Professor at School of Mathematics, Thapar University Patiala, Punjab, India. Pursuing innovative and insightful research in the area of multi criteria decision-making, aggregation operator, intuitionistic fuzzy set, reliability theory, using evolutionary algorithms with their application in numerous industrial engineering areas. Published 100 technical papers in refereed International Journals, including *Artificial Intelligence, Applied Soft Computing, Experts Systems with Applications, International Journal of Intelligent Systems, Journal of Intelligent and Fuzzy Systems, Computer and Industrial Engineering, IEEE Transactions on Emerging Topics in Computational Intelligence, Computer and Operations Research, International Journal of Uncertainty, Fuzziness and Knowledge-based Systems, Journal of Industrial and Management Optimization, Journal of Multiple Logic and Soft Computing, Japan Journal of Industrial and Applied Mathematics*. Published seven book chapters as well. Editorial Board member of various International Journals. Listed in International Who's Who of Professionals, Marquis Who's Who in the World, and Marquis Who's Who in Science and Engineering. Awarded top reviewer for the journal *Applied Soft Computing* (ASOC), Elsevier, and awarded outstanding reviewer in the year 2016 for ASOC (Elsevier) Journal.

Research Interests

Multi Criteria Decision-Making; Aggregation Operator; Intuitionistic Fuzzy Set; Reliability Theory using Evolutionary Algorithms; Soft Computing Techniques; Neutrosophic Logic; Neutrosophic Numbers; Neutrosophic Cubic Set; Neutrosophic Decision Making; Aggregation Operators; Neutrosophic Optimization; Single Valued Neutrosophic Set; Interval Neutrosophic Set.

Neutrosophic Research

The focus in the neutrosophic domain is to present some more information measures, as well as the aggregation operators under the single valued, interval-valued, hesitant and linguistic neutrosophic information.

List of Publications in Neutrosophics

H. Garg, Nancy (2017). Non-linear programming method for multi-criteria decision making problems under interval neutrosophic set environment. *Applied Intelligence*, DOI: 10.1007/s10489-017-1070-5

H. Garg, Nancy (2016). Single-valued Neutrosophic Entropy of order. *Neutrosophic Sets and Systems*, 14, 21 – 28.

Nancy, H. Garg (2016). An improved score function for ranking neutrosophic sets and its application to decision-making process. *International Journal for Uncertainty Quantification*, 6(5), 377 – 385.

Nancy, H. Garg (2016). Novel single-valued neutrosophic decision making operators under Frank norm operations and its application. *International Journal for Uncertainty Quantification*, 6(4), 361 – 375.

Dr.

P. Geetha

Assistant Professor

Affiliation
V.V.Vanniaperumal College for Women
Virudhunagar, Tamilnadu / INDIA

Profile

Bachelor Degree from Madurai Kamaraj University, Madurai, Tamilnadu, India (1992). Master Degree from Alagappa University, Karaikudi, India (1994). MPhil from Madurai Kamaraj University (1999). PhD from Madurai Kamaraj University, with the thesis "A Study on Soft Lattices" (2016).

Research Interests

Lattice Theory; Soft Sets; Rough Sets; Neutrosophic Sets; Single Valued Neutrosophic Sets.

Neutrosophic Research

Applying the theory of Single Valued Neutrosophic Soft Sets in real life decision making problems.

List of Publications in Neutrosophics

Geetha P., Anitha K., Single Valued Neutrosophic Soft Over / Under / Offsets. *International Journal of Science and Reasearch* (ISSN Online 2319-7064), Volume 5, Issue 11, pp. 1352-1356, November 2016.

Geetha P., Anitha K.., Some New Operations on Single Valued Neutrosophic Sets. *Mathematical Sciences International Research Journal*, ISSN: 2278-8697, Volume 6, pp. 214-217, SPL Issue 2017.

PhD Candidate

Anjali Gupta

Assistant Professor

Affiliation
Manav Rachna International University
Sector-43, Aravali Hils
Delhi Surajkund Road, Faridabad
Haryana, 121001 / INDIA

Profile

MTech from NIT, Kurukshetra. BTech from GZSCET, Bathinda, India. Pursuing PhD from NIT Kurukshetra. Member of Indian Geotechnical Society (India). Presently working as Assistant Professor, Department of Civil Engineering, Manav Rachna International University, Faridabad. More than 12 years experience. Published 4 research papers out of which 2 are on the area of Neutrosophic Fuzzy Logic.

List of Publications in Neutrosophics

Srijit Biswas, Sunita Bansal, Anjali Gupta: Neutrosophic Group Decision for Modeling of Post Earthquake Disaster Assesssment. *Engineering Science and Technology: An International Journal* (ESTIJ). Accepted, March 2017 (SCOPUS).

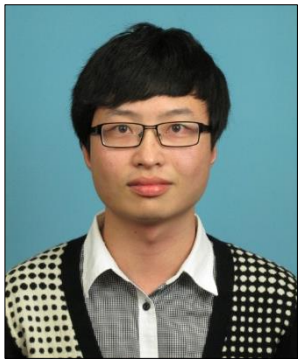
Srijit Biswas, Sunita Bansal, Anjali Gupta: Neutrosophic fuzzy approach for assessment of health hazardous of ragpickers, Communicated to *International Journal of Technology* (IJTech), Feb 2017 (SCOPUS).

Dr.

Keli Hu

Lecturer

Affiliation
Department of Computer Science and Engineering
Shaoxing University
Huancheng West Road 508, Yuecheng District
Shaoxing 312000 / P.R. CHINA



Profile

BSc degree in communication engineering from Hangzhou Dianzi University, China. PhD in information and communication engineering from Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences. Currently, affiliated with the Department of Computer Science and Engineering, Shaoxing University, China. Worked as reviewers for several SCI journals and conferences. Published more than 20 journal papers. Presided four grant funded projects by 2017.

Research Interests

Artificial Intelligence; Pattern Recognition; Computer Vision; Image Processing; Target Tracking.

Neutrosophic Research

Firstly applied neutrosophic set into visual object tracking research area in 2015. Published several research works based on neutrosophic set, such as feature fusion and multiple attribute group decision-making. Presided Youth Fund of National Natural Science Fund 1 item, "Research on multi-feature and multi-tracker fusion for visual object tracking using multi-attribute decision making based on neutrosophic set" (No. 61603258) in 2016.

K.L. Hu, J. Ye, E. Fan, S.G. Shen, L.J. Huang, J.T. Pi. A novel object tracking algorithm by fusion color and depth information based on single valued neutrosophic cross-entropy. *Journal of Intelligent and Fuzzy Systems*, vol. 32, no. 3, pp. 1775-1786, 2017.

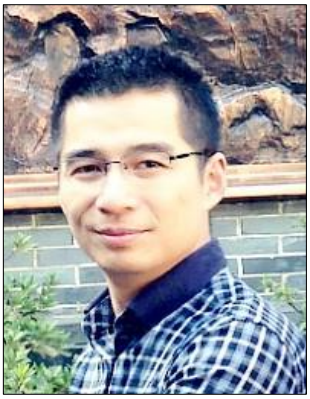
C.X. Fan, J. Ye, K.L. Hu, E. Fan. Bonferroni mean operators of linguistic neutrosophic numbers and their multiple attribute group decision-making methods. *Information*, vol. 8, no. 3, pp. 1-11, 2017.

Dr.

Hua Ma

Associate Professor

Affiliation
Department of Computer
Hunan Normal University
36 Yuelu Mountain Road
Changsha 410081 / P.R. CHINA



Profile

BSc in Computer Science and Technology. MSc in Computer Application Technology from Central South University, Changsha, China. PhD in Software Engineering from Central South University, Changsha, China. Currently, associate professor in the Department of Computer at Hunan Normal University, Changsha, China. Published more than 30 journal/conference papers. Completed five research projects funded by various agencies, and worked as reviewers for eight international journals/conferences or Chinese journals.

Research Interests

Service Computing; Cloud Computing; Software Engineering.

Neutrosophic Research

Applied neutrosophic set into service computing and cloud computing areas. Research based on neutrosophic set, such as trustworthiness measurement of cloud services, multi-criteria decision-making in service selection and combination optimization in service composition.

List of Publications in Neutrosophics

H. Ma, Z.G. Hu, K.Q. Li, H.Y. Zhang: Toward trustworthy cloud service selection: A time-aware approach using interval neutrosophic set, *Journal of Parallel and Distributed Computing*, 96 (2016) 75-94.

H. Ma and H.B. Zhu: Time-aware trustworthiness ranking prediction for cloud services using interval neutrosophic set and ELECTRE (Submitted).

Dr.

Saeid Jafari

Professor

Affiliation
College of Vestsjaelland South
DENMARK

Profile

Born in Iran (1960). Teacher and researcher in mathematics and philosophy. Master degree from Aalborg University. Major in Mathematics with subject in Symplectic Geometry and minor in philosophy from Copenhagen University in 1993. He also studied Physics at Aalborg University. *Doctor rerum naturalium* in Topology from Graz University of Technology in Austria, in 2004. More than 300 papers published in reputed international journals. Attending conferences and workshops around the world and working actively with different researchers, mostly from India.

Research Interest

General Topology; Fuzzy Logic and Topology; Functional Analysis; Symplectic Geometry; Strings; Gauge Theory; Quantum Gravity; Neutrosophic Logic and Topology; Theory of Multifunctions.

Neutrosophic Research

Since 2016, became acquainted with the neutrosophic theory and now, among others, working actively in this field.

List of Publications in Neutrosophics

Saeid Jafari, I. Arokiarani and J. Martina Jency: The Alexandrov-Urysohn compactness on single valued Neutrosophic S* centered systems. In: "New Trends in Neutrosophic Theory and Applications", 2016, 345-361.

Saeid Jafari, M. L. Thivagar, V. S. Devi and V. Antonysamy: A novel approach to nano topology via neutrosophic sets. In: "New Trends in Neutrosophic Theory and Applications", 20, 2018, 86-94.

Saeid Jafari, M. L. Thivagar, V. Antonysamy and V. S. Devi: The ingenuity of neutrosophic topology via N-topology. *Neutrosophic Sets and Systems* (USA), 19, 2018, 91-100.

Saeid Jafari, M. Caldas, R. Dhavaseelan, M. Ganster: Neutrosophic resolvable and neutrosophic irresolvable spaces. In: "New Trends in Neutrosophic Theory and Applications", vol. 2, 2018, 328-336.

Saeid Jafari, R. Dhavaseelan, N. Rajesh and F. Smarandache: Neutrosophic semi-continuous multifunctions. In: "New Trends in Neutrosophic Theory and Applications", vol. 2, 2018, 346-355.

Saeid Jafari, R. Dhavaseelan, C. Özel and M. A. Al-Shumrani, Generalized neutrosophic contra continuity. In: "New Trends in Neutrosophic Theory and Applications", vol. 2, 2018, 283-298.

Saeid Jafari, R. Dhavaseelan, Generalized neutrosophic closed sets. In: "New Trends in Neutrosophic Theory and Applications", vol. 2, 2018, 245-258.

Saeid Jafari, R. Dhavaseelan, M. Ganster and M. Parimala, On neutrosophic α-supra open sets and neutrosophic α-supra continuous functions. In: "New Trends in Neutrosophic Theory and Applications", vol. 2, 2018, 273-282.

Saeid Jafari, R. Dhavaseelan, M. Latif and F. Smarandache. Neutrosophic rare α-continuity. In: "New Trends in Neutrosophic Theory and Applications", vol. 2, 2018, 337-345.

Saeid Jafari, M. Parimala, M. Karthika and R. Dhavaseelan: On neutrosophic supra precontinuous functions in neutrosophic topological spaces. In: New Trends in Neutrosophic Theory and Applications, vol. 2, 2018, 356-368.

Saeid Jafari, M. Parimala, R. Jeevitha, F. Smarandache and R. Udhayakumar: Neutrosophic $\alpha\Psi$-homeomorphism in neutrosophic topological spaces, *Information*, 9, 2018.

Saeid Jafari, M. Parimala, R. Jeevitha and F. Smarandache: An application of bipolar single valued neutrosophic minimal spanning tree in tree topology, *Symmetry*, 10, 2018.

Saeid Jafari, M. Parimala, M. Karthika, F. Smarandache and R. Udaykumar: Decision-making via neutrosophic support soft topological spaces. *Symmetry*, 10, 2018, 217-227.

Saeid Jafari, R. Dhavaseelan, R. N. Devi and Md. Hanif: Neutrosophic Baire spaces. *Neutrosophic Sets and Systems*, 16, 2017, 20-23.

Saeid Jafari, I. Arokiarani, R. Dhavaseelan and M. Parimala: On some new notions and functions in neutrosophic topological spaces. *Neutrosophic Sets and Systems*, 16, 2017, 16-19.

Saeid Jafari, R. Dhavaseelan and F. Smarandache: Compact open topology and evaluation map via neutrosophic sets. *Neutrosophic Sets and Systems*, 16, 2017, 35-38.

Saeid Jafari, R. Dhavaseelan, M. Parimala, F. Smarandache: On neutrosophic semi-supra open set and neutrosophic semi-supra continuous function. *Neutrosophic Sets and Systems*, 16, 2017, 39-43.

Saeid Jafari, M. Parimala, F. Smarandache and R. Udhayakumar: On neutrosophic $\alpha\Psi$-closed sets. *Information*, 9(5)(2018), 103-110.

Saeid Jafari, R. N. Devi and R. Dhavaseelan: On separation axioms in an ordered neutrosophic bitopological space. *Neutrosophic Sets and Systems*, 18, 2017, 27-36.

Dr.

Temitope Gbolahan Jaiyeola

Senior Lecturer and Researcher

Affiliation
Department of Mathematics
Faculty of Science
Obafemi Awolowo University
Ile-Ife / NIGERIA

Profile

BSc degree in Mathematical Science (with bias in Mathematics) in 2002. MSc degree in Mathematics in 2005. PhD degree in Mathematics in 2009 at the University of Agriculture, Abeokuta, Nigeria (now Federal University of Agriculture, Abeokuta, Nigeria). MSc and PhD theses were based on the notions of "Central Loops" and "Osborn Loops" in the field of Algebra known as "Theory of Quasigroups and Loops". Research in the field of "Theory of Quasigroups and Loops" for the past 15 years. Published 58 research articles in international and reputable journals. Published a research monograph titled "A Study of New Concepts in Smarandache Quasigroups and Loops" in 2009. Appointed at the Department of Mathematics, Faculty of Science, Obafemi Awolowo University (OAU), Ile-Ife, Nigeria as an Assistant Lecturer (2006), and cuurently a Senior Lecturer at the same university (since 2011). Supervising MSc and PhD Mathematics theses. Member of some academic and administrative committees in both the Department, Faculty and the University. Attended National and International Conferences and Schools.

Research Interests

Specialized in "Groups and their Generalization" and "Non-Associative Algebraic Systems". Particular field of expertise in the "Theory of Groupoids, Quasigroups and Loops". Also worked on "Neutrosophic Algebraic Structures" and "Non-Associative Hyper-Algebraic Structures".

Neutrosophic Research

Applying neutrosophics to Cryptography and Coding Theory.

List of Publications in Neutrosophics

T. G. Jaiyeola and F. Smarandache (2018): Inverse Properties in Neutrosophic Triplet Loop and their Application to Cryptography. *Algorithms*, Vol. 11, No. 3, 32; DOI: 10.3390/a11030032. Switzerland; https://goo.gl/DKdPrh

T. G. Jaiyeola and F. Smarandache (2018): Some Results on Neutrosophic Triplet Group and their Applications. *Symmetry*, Vol. 10, No. 6, 202; https://doi.org/10.3390/sym10060202.

Dr.

Young Bae Jun

Emeritus Professor

Affiliation
Department of Mathematics Education
Gyeongsang National University
Jinju 52828 / SOUTH KOREA

Profile

PhD from Kyung Hee University, Seoul, South Korea. Post-Doctoral Fellow at University of Alberta, Canada, 1989-1990 (Supported by Korea Science & Engineering Foundation). Worked at the Department of Mathematics Education, Gyeongsang National University (GNU) as a professor (from 1982 to 2016), and now Emeritus Professor of GNU. Published a book, "BCK-algebras", with Professor J. Meng, and more than 730 research papers in several journals. Awards and Honors: Academic Achievement Award (7 July 2006), Busan-Gyeongnam Branch of the Korean Mathematical Society. Listed in the eighth edition of "Marquis Who's Who in Science and Engineering". Listed among the Highly Cited Researchers 2016 published by Thomson Reuters.

Research Interests

BCK/BCI-Algebra; Fuzzy Algebraic Structure; Soft (Rough) Algebraic Structure; Smarandache Notions in Algebraic Structures.

Neutrosophic Research

Neutrosophic Logic; Neutrosophic Cubic Set; Neutrosophic Algebraic Structures.

Y. B. Jun, F. Smarandache and C. S. Kim: Neutrosophic Cubic Sets. *New Mathematics and Natural Computation*, 13 (2017), no. 1, 41-54.

Y. B. Jun, F. Smarandache and C. S. Kim: P-union and P-intersection of neutrosophic cubic sets. *An. Stiin. Univ. Ovidius,* Constanta, Romania, Ser. Mat. 25(1) (2017) 99-115.

Y. B. Jun: Neutrosophic subalgebras of several types in BCK/BCI-algebras. *Annals of Fuzzy Mathematics and Informatics*, 14 (2017), no. 1, 75-86.

A. Borumand Saeid and Y. B. Jun: Neutrosophic subalgebras of BCK/BCI-algebras based on neutrosophic points. *Annals of Fuzzy Mathematics and Informatics*, 14 (2017), no. 1, 87-97.

PhD Candidate

Mustapha Kachchouh

Lecturer Assistant

Affiliation
Ibn Rushd Studies Laboratory
Philosophy Department
Faculty of Arts and Human Sciences Dhar El Mahraz
Sidi Mohmed Ibn Abdallh University
Fez / MOROCCO

Profile

Bachelor of Philosophy in 2008, and Master degree in Modern Philosophy with the thesis "The physical reality in super string theory, towards a philosophical reading of scientific theory", under the supervision of Prof. Tebesse Youssef in 2011. Since 2013, PhD Student under the supervision of Prof. Lahkim Benani, with the thesis: "Rationality and paradoxes in Contemporary Thought: towards a new Rationality based on paradoxes, neutrosophy as a model", from Faculty of Arts and Human Sciences Dhar El Mahraz, Sidi Mohmed Ibn Abdallah University – Fez, Morocco. Teacher of philosophy in high school since 2011. Lecturer assistant in symbolic logic since February 2017 (Faculty of Arts and Human Sciences Dhar El Mahraz, Sidi Mohmed Ibn Abdallah University –Fez, Morocco).

Research Interests

History and Philosophy of Sciences (Physics and Mathematics); Epistemology; Symbolic Logic; Metaphysics; Neutrosophy; Neutrosophic Logic; Fuzzy Logic; Education.

Neutrosophic Research

Working on the development of Neutrosophy in a range of philosophical disciplines, especially in ontology and epistemology. Seeking to found a quantum ontology. Attempting to construct a new theory of knowledge from a purely neutrosophic point of view.

Mustapha Kachchouh: "Rationality and Paradoxes in Contemporary Thought: towards a new Rationality based on paradoxes, neutrosophy as a model". PhD thesis, Faculty of Arts and Human Sciences Dhar Elmahraz, Sidi Mohmed Ibn Abdallah University – Fez, Morocco.

Dr.

Darjan Karabasevic

Assistant Professor

Affiliation
Faculty of Applied Management, Economics and Finance
University Business Academy in Novi Sad
Belgrade / SERBIA

Profile

Vice-Dean for Scientific Research and Assistant Professor of Management and Informatics at the Faculty of Applied Management, Economics and Finance, University Business Academy in Novi Sad. Obtained degrees at all the levels of studies (BSc appl. in Economics, BSc in Economics, Academic Specialization in the Management of Business Information Systems and PhD in Management and Business) at the Faculty of Management in Zajecar, John Naisbitt University Belgrade. Published a number of papers in prominent journals, such as *Informatica, Inzinerine Ekonomika - Engineering Economics, Journal of Business Economics and Management, Transformations in Business and Economics*, etc.

Research Interests

Management; Informatics; Decision-making.

List of Publications in Neutrosophics

Urosevic, S., Stanujkic, D., Karabasevic, D., & Brzakovic, P. (2018). Using single valued neutrosophic set to select tourism development strategies in eastern Serbia. *Economics of Agriculture*, 65(2), 555-568.

Stanujkic, D., Zavadskas, E. K., Smarandache, F., Brauers, W. K. M., & Karabasevic, D. (2017). A Neutrosophic Extension of the MULTIMOORA Method. *Informatica*, 28(1), 181-192. http://dx.doi.org/10.15388/Informatica.2017.125

Stanujkic, D., Smarandache, F., Zavadskas, E. K., & Karabasevic, D. (2017). An Approach to Measuring the Website Quality Based on Neutrosophic Sets. In: "New Trends in Neutrosophic Theory and Applications", Vol. II, 40-50.

Stanujkic, D., Smarandache, F., Zavadskas, E. K., & Karabasevic, D. (2016). Multiple Criteria Evaluation Model Based on the Single Valued Neutrosophic Set. *Neutrosophic Sets and Systems*, 14, 3-6.

Dr.

Seema Mehra

Assistant Professor

Affiliation
Department of Mathematics
Maharshi Dayanand University
Rohtak / INDIA

Profile

Graduated from Maharshi Dayanand University, Rohtak, with BSc, MSc and PhD in Mathematics. Assistant Professor in Department of Mathematics, Maharshi Dayanand University, Rohtak for over 10 years.

Research Interests

Analysis; Fuzzy mathematics; Graph Theory; Discrete Mathematics; Graph Labeling; Fuzzy Graphs; Neutrosophic Graphs.

List of Publications in Neutrosophics

Seema Mehra, Manjeet Singh (2017). Single Valued Neutrosophic Signed Graphs. *International Journal of Computer Applications*, 157(9), 31-34. Published by Scholarly Peer Reviewed Research Publishing Journal, Foundation of Computer Science, New York, NY 10001, USA.

Dr.

M. Mullai

Assistant Professor

Affiliation
Department of Mathematics
Alagappa University
Karaikudi – 630 003
Tamil Nadu / INDIA

Profile

BSc in Mathematics, Mathematics Department, Madurai Kamaraj University of Tamil Nadu in 1998. MSc in Mathematics in 2001, MPhil in Mathematics in 2002 and PhD in Mathematics with specialization Fuzzy Algebra in 2012, Department of Mathematics in Alagappa University, Karaikudi, Tamil Nadu, India. Guest Lecturer in the Department of Mathematics in Alagappa Govt. Arts College, Karaikudi (2004-2010). Lecturer in the Department of Mathematics in Veltech Engineering College, Avadi, Chennai (2005-2006). Assistant Professor in the Department of Mathematics in St. Micheal College of Engineering and Technology, Kalayarkoil (2010-2011). Associate Professor & Head, Department of Mathematics in Sri Raaja Raajan College of Engineering and Technology, Amaravathipudur, Karaikudi (2011-2013). Since 2013, Assistant Professor in Mathematics (DDE) in Department of Mathematics, Alagappa University, Karaikudi.

Research Interests

Algebra; Fuzzy Algebra; Operations Research; Mathematical Modelling; Neutrosophic Optimization Theory and Neutrosophic Inventory Models.

List of Publications in Neutrosophics

M. Mullai, S. Broumi and A. Stephen, "Shortest path problem by minimal spanning tree algorithm using bipolar neutrosophic numbers", *International Journal of Mathematics Trends and Technology*, vol.46(2), June -2017.

M. Mullai and A. Stephen, "Neutrosophic critical path analysis for project network", *Asian Journal of Mathematics and Computer Research*, 21(1): 28-35, 2017.

M. Mullai and S. Broumi, "Neutrosophic inventory model without shortages", *Asian Journal of Mathematics and Computer Research*, 23(4): 214-219, 2018. [ISSN: 2395-4205 (Print), 2395-4213 (Online)]

M. Mullai and R. Surya, "Neutrosophic EOQ Model with Price Break", *Neutrosophic Sets and Systems*, Vol. 19: 24-28, 2018. [ISSN (print): 2331-6055, ISSN (online): 2331-608X.

M. Mullai and R. Surya, Neutrosophic inventory backorder problem using triangular neutrosophic number (Communicated).

M. Mullai and R. Surya, Neutrosophic Inventory Model under immediate return for deficient Items (Communicated).

PhD Candidate

Nancy

Teaching Assistant

Affiliation
School of Mathematics,
Thapar University Patiala – 147004,
Punjab / INDIA

Profile

Bachelor of Science (Computer Science, Mathematics and Statistics) in 2012, Master in Mathematics (2012 – 2014) from Punjabi University, Patiala, India. PhD Scholar at School of Mathematics, Thapar University, Patiala, Punjab, India. Technical papers published in international journals, including *Artificial Intelligence, International Journal of Uncertainty Quantification*.

Research Interests

Multi Criteria Decision-Making; Intuitionistic Fuzzy Set; Neutrosophic Logic; Neutrosophic Numbers; Neutrosophic Decision Making; Aggregation Operators; Neutrosophic Optimization; Single Valued Neutrosophic Set; Interval Neutrosophic Set.

Neutrosophic Research

Aggregation operators under the single valued, interval-valued, hesitant and linguistic neutrosophic information.

List of Publications in Neutrosophics

H. Garg, Nancy (2017). Non-linear programming method for multi-criteria decision making problems under interval neutrosophic set environment, *Applied Intelligence*, DOI: 10.1007/s10489-017-1070-5

H. Garg, Nancy (2016). Single-valued Neutrosophic Entropy of order, *Neutrosophic sets and Systems*, 14, 21 – 28.

Nancy, H. Garg (2016). An improved score function for ranking neutrosophic sets and its application to decision-making process, *International Journal for Uncertainty Quantification*, 6(5), 377 – 385.

Nancy, H. Garg (2016), Novel single-valued neutrosophic decision making operators under Frank norm operations and its application, *International Journal for Uncertainty Quantification*, 6(4), 361 – 375.

PhD Research Scholar

Nital P. Nirmal

Assistant Professor of Production Engineering

Affiliation
Department of Production Engineering
Shantilal Shah Engineering College
(State Government Institute)
New Sidsar Campus
Post Vartej,
Bhavnagar, Gujarat
364060 / INDIA

Profile

Bachelor Degree in Production Engineering from Bhavnagar University. Masters of Engineering in Mechanical with specialization Production Engineering from the University of Baroda, Vadodara. Pursuing Doctoral Research at Gujarat Technological University, Ahmedabad, on "Development of Multi Attribute Decision Making Technique for Improved Performance in Manufacturing and Supply Chain Function". Assistant Professor at the Department of Production Engineering, Shantilal Shah Government Engineering College, Bhavnagar. Published/presented research papers at/in international/national conferences and journals.

Research Interests

Fuzzy Single Valued Neutrosophic Set; Multi Attribute Decision Making; Multi Criteria Decision Making; Strategic Decision; Optimization Techniques; Selection Methodology.

Neutrosophic Research

Implemented Entropy Weight based multi attribute decision-making (MADM) with Fuzzy Single Valued Neutrosophic Set (F-SVNS) with technique carried out with conversion rule of crisp or fuzzy umber into single valued neutrosophic set. Methodology implemented and validated

under the area of manufacturing and supply chain environment. The result of the study builds assurance in suitability of fuzzy single valued neutrosophic set entropy based novel multi-attribute decision-making for improved performance in manufacturing and supply chain functions.

List of Publications in Neutrosophics

N. Nirmal, M. Bhatt (2016). Selection of Automated Guided Vehicle using Single Valued Neutrosophic Entropy Based Multi Attribute Decision Making. New Trends in Neutrosophic Theory and Applications, Pons Editions, Brussels, Belgium, European Union, ISBN: 978- 1-59973-498-9, 105-114.

N. Nirmal, M. Bhatt (2018). Development of Fuzzy- Single Valued Neutrosophic MADM Technique to Improve Performance in Manufacturing and Supply Chain Functions, Neutrosophic Sets in Multiple Criteria Decision Making, Studies in Fuzziness and Soft Computing, Springer International Publishing, Accepted Chapter.

Dr.

M. Parimala

Assistant Professor (Level III)

Affiliation
Department of Mathematics
Bannari Amman Institute of Technology
Sathyamangalam – 638401
Erode, Tamilnadu / INDIA

Profile

Assistant Professor (Level III) at Bannari Amman Institute of Technology, Sathyamangalam. PhD (Mathematics) in 2012 from Bharathiar University, Coimbatore, Tamilnadu, India. Published 55 research articles in international peer-reviewed journals, including 16 SCOPUS Indexed and 7 ISI Indexed /IF Journal publications. PhD supervisor for the Anna University, Chennai, India.

Research Interests

Nano and Intutionistic Fuzzy Topology; Minimal Ideals; Digital Image Processing; Digital Topology.

List of Publications in Neutrosophics

M. Parimala, R. Jeevitha, S. Jafari, F. Smarandache and R. Udhayakumar, Neutrosophic αψ--Homeomorphism in Neutrosophic Topological Spaces, *Information*, 2018, 9(187), 1-10.

M. Parimala, M. Karthika, S. Jafari, F. Smarandache and R. Udhayakumar, Decision-Making via Neutrosophic Support Soft Topological Spaces, *Symmetry*, 2018, 10(6), 217, 1-10. (SCIE-IF:1.457)

M. Parimala, F. Smarandache, S. Jafari and R. Udhayakumar, On Neutrosophic αψ-Closed Sets, Information, 2018, 9, 103, 1-7.

R. Dhavaseelan, M. Ganster, S. Jafari and M. Parimala. On neutrosophic α-supra open sets and neutrosophic α-supra

continuous functions, In "New Trends in Neutrosophic Theory and Applications", 2018, Volume II, 289-298.

M. Parimala, M. Karthika, R. Dhavaseelan, S. Jafari. On neutrosophic supra pre-continuous functions in neutrosophic topological spaces, In "New Trends in Neutrosophic Theory and Applications", 2018, Volume II, 371-383.

I. Arokiarani, R. Dhavaseelan, S. Jafari, M. Parimala, On some new notions and functions in neutrosophic topological spaces, *Neutrosophic Sets and Systems*, Volume 16, 2017, 16-19.

R. Dhavaseelan, M. Parimala, S. Jafari, F. Smarandache, On neutrosophic semi-supra open set and neutrosophic semi-supra continuous functions, *Neutrosophic Sets and Systems*, Volume 16, 2017, 39-43.

Dr.

Juan-juan Peng

Postdoctoral researcher and Associate Professor

Affiliation
School of Business
Central South University
932 Lushan South Road
Changsha, Hunan Province
410083 / P.R. CHINA

Profile

MSc in Computational Mathematics from Wuhan University of Technology, China, in 2007. PhD in Central South University, China in 2015. Postdoctoral researcher in Business School, Central South University. Associated professor in School of Economics and Management, Hubei University of Automotive Technology. In charge of National Natural Science Foundation of China: "The research on multi-criteria decision-making methods and their applications based on picture fuzzy sets".

Research Interests

Multi-Criteria Decision Making; Group Decision-Making; Risk Evaluation; Tourism Recommendation.

Neutrosophic Research

Interested in the combination of neutrosophic sets and fuzzy sets.

List of Publications in Neutrosophics

Juan-juan Peng, Jian-qiang Wang, Li-jun Yang, Jie Qian. (2017), A novel multi-criteria group decision-making approach using simplified neutrosophic information. *International Journal for Uncertainty Quantification*, 7(4), 355-376.

Juan-juan Peng, Jian-qiang Wang, Wu-E Yang. (2017) A multi-valued neutrosophic qualitative flexible approach based

on likelihood for multi-criteria decision-making problem. *International Journal of Systems Science*, 48(2), 425-435。

Juan-juan Peng, Jian-qiang Wang, Xiao-hui Wu. (2016) An extension of the ELECTRE approach with multi-valued neutrosophic information. *Neural Computing and Applications,* DOI: 10.1007/s00521-016-2411-8.

Juan-juan Peng, Jian-qiang Wang, Jing Wang, Hong-yu Zhang, Xiao-hong Chen. (2016) Simplified neutrosophic sets and their applications in multi-criteria group decision-making problems. *International Journal of Systems Science*, 47 (10), 2342-2358.

Juan-juan Peng, Jian-qiang Wang, Xiao-hui Wu, Jing Wang, Xiao-hong Chen. (2015) Multi-valued neutrosophic sets and power aggregation operators with their applications in multi-criteria group decision-making problems. *International Journal of Computational Intelligence Systems*, 8(2), 345-363.

Juan-juan Peng, Jian-qiang Wang, Hong-yu Zhang, Xiao-hong Chen. (2014) An outranking approach for multi-criteria decision-making problems with simplified neutrosophic sets. *Applied Soft Computing,* 25, 336-346.

Xiao-hui Wu, Jian-qiang Wang, Juan-juan Peng, Xiao-hong Chen. (2016) Cross-entropy and prioritized aggregation operator with simplified neutrosophic sets and their application in multi-criteria decision-making problems. *International Journal of Fuzzy Systems*, 18(6), 1104-1116

Dr.

Xindong Peng

Lecturer

Affiliation
School of Information Science and Engineering
Shaoguan University
288 Daxue Road, Shaoguan
Guangdong Province 512005 / P. R. CHINA

Profile

Lecturer in the School of Information Science and Engineering, Shaoguan University. Published More than 20 SCI-indexed papers. SCI-indexed Journal Reviewer of *IEEE Transactions on Fuzzy Systems, Knowledge Based Systems, Applied Soft Computing, Artificial Intelligence Review, Cognitive Computatio, International Journal of Fuzzy Systems*.

Research Interests

Neutrosophic Set; Soft Computing; Multi-criteria Decision Making; Pattern Recognitions.

List of Publications in Neutrosophics

X.D.Peng, J.G. Dai. Algorithms for interval neutrosophic multiple attribute decision making based on MABAC, similarity measure and EDAS. *International Journal for Uncertainty Quantification*, 2017, 7(5), 395-421.

X.D.Peng, C. Liu. Algorithms for neutrosophic soft decision making based on EDAS, new similarity measure and level soft set. *Journal of Intelligent & Fuzzy Systems*. 2017, 32 (1), 955-968.

X.D.Peng, J.G. Dai. Approaches to single-valued neutrosophic MADM based on MABAC, TOPSIS and new similarity measure with score function. *Neural Computing and Applications*, 2018, 29(10), 939-954.

X.D. Peng, J.G. Dai. A Bibliometric Analysis of Neutrosophic Set: Two Decades Review from 1998-2017. *Artificial Intelligence Review*, DOI: 10.1007/s10462-018-9652-0, 2018.

Dr.

Karina Pérez Teruel

Professor

Affiliation
Universidad Abierta para Adultos
Santiago de los Caballeros / REPÚBLICA DOMINICANA

Profile

PhD in Technical Sciences (Artificial Intelligence), Master of Science (Bioinformatics) and Informatics Engineer. Currently, professor at the Universidad Abierta para Adultos.

Research Interests

Neutrosophic logic; Neutrosophic Cognitive Maps, Multicriteria Decision Support.

Neutrosophic Research

Multicriteria Decision Support using SVN numbers, Neutrosofic Cognitive Maps, Requirement Engineering.

List of Publications in Neutrosophics

Ameirys Betancourt-Vázquez, Karina Pérez-Teruel: Modelado y análisis las interdependencias entre requisitos no funcionales mediante mapas cognitivos neutrosóficos. *Neutrosophic Computing and Machine Learning*. 2018

Ameirys Betancourt-Vázquez, Maikel Leyva-Vazquez, Karina Pérez-Teruel. Neutrosophic cognitive maps for modeling project portfolio interdepend'encies. *Critical Review*. 2015 Jun 1;10:40-4.

Ameirys Betancourt-Vázquez, Karina Pérez-Teruel, Maikel Leyva-Vazquez. Modeling and analyzing non-functional requirements interdependencies with neutrosofic logic. *Neutrosophic Sets and Systems*. 2015:44.

Karina Pérez-Teruel, Maikel Leyva-Vazquez. Neutrosophic logic for mental model elicitation and analysis. *Neutrosophic Sets and Systems*. 2012:30.

Maikel Leyva-Vazquez, Karina Pérez-Teruel, Smarandache F. Análisis de textos de José Martí utilizando mapas cognitivos neutrosóficos. In: "Neutrosophic Theory and Its Applications. Collected Papers", 1:463-7.

Dr.

Diego Lucio Rapoport

Lecturer

Affiliation
Professor of Mathematics
Department of Sciences and Technology
Universidad Nacional de Quilmes
Bernal, Buenos Aires / ARGENTINA

Profile

Patagonian polymath, born in Buenos Aires, studied in Buenos Aires, Rio and Tel Aviv (PhD thesis in mathematical physics, completed at Harvard). Professor of Mathematical Physics at the Instituto Balseiro (Bariloche), University of Buenos Aires, University of Sao Paulo and Pontifical Catholic University of Rio, Universidad Autonoma Metropolitana and Instituto Politecnico Nacional (Mexico City), University of Bio Bio (Concepcion, Chile). Lectured at the University of Tel Aviv, Technion (Haifa) and Universidade Santa Ursula (Rio). In 2010 received, together with Prof. Florentin Smarandache among others, the Telesio Galilei Academy of Sciences (UK) Gold Medal Award, at Pecs University, Hungary.

Research Interests

Unification of Science through multistate logic and its associated phenomenology.

Neutrosophic Research

Developed a supradual ontoepistemology and logophysics related to the non-orientability of the Klein Bottle with its four logical states (Inside/Inside, Inside/Outside, Outside/Inside and Outside/Outside) that is a refined Neutrosophic logic (true, false, contradiction and undecidable), and still applied it to the topology of the complex plane, non-linear

systems and chaos, non-linear thermodynamics, morphogenesis in biology and physics, phenomenology, cognition and perception, biology (development, genomics, morphomechanics, anatomy, physiology), chemistry, cybernetics, pattern recognition. This supradual logic is further related to the multistate Matrix Logic of August Stern, which has Quantum Logic, Fuzzy Logic and Boolean Logic as special cases. It serves to lift the Boolean logic expressed as the Calculus of Forms due to George Spencer-Brown accounting for the imaginary values, and the self-return of the form on itself through the Klein Bottle self-penetration. Discussed the relations of some of these topics with Neutrosophics and particularly in physics and topological chemistry, as an ontology related to metamorphoses, as is already the case of the electron and the photon, as in the Dirac-Hestenes equation for the spinor-operator field and the Maxwell equations. Also, in relation to the paradoxical structure of the real numbers, and particularly its bearing to the evolution of generic non-linear systems and chaos, and the self-return of a non-linear system on itself as cyclic behavior of destruction and reorganization.

List of Publications in Neutrosophics

Rapoport, D.L. Klein Bottle Logophysics, Self-Reference, Heterarchies, Genomic Topologies, Harmonics and Evolution. Part I Morphomechanics, Space and Time in Biology & Physics, Cognition, Non-Linearity and the Structure of Uncertainty. *Quantum Biosystems*. 7(1) 1-73, 2016.

Rapoport D.L. Klein Bottle Logophysics, Self Reference, Heterarchies, Genomic Topologies, Harmonics and Evolution. Part II. Morphomechanics, Space and Time in Biology & Physics, Cognition, Non-Linearity and the Structure of Uncertainty. *Quantum Biosystems*. 7(1) 74-106, 2016.

Rapoport D.L. Klein Bottle Logophysics, Self Reference, Heterarchies, Genomic Topologies, Harmonics and Evolution. Part III. The Klein Bottle Logic of Genomics and its Dynamics, Quantum Information, Complexity and

Palindromic Repeats in Evolution. *Quantum Biosystems*. 7(1) 107-174.

Rapoport D.L. Klein bottle logophysics: a unified principle for non-linear systems, cosmology, geophysics, biology, biomechanics and perception. *Journal of Physics*: Conference Series, Volume 437, conference 1 (IOP, UK).

Rapoport D.L. Hyper Klein Bottle Logophysics Ontopoiesis of the Cosmos and Life. In: Tymieniecka AT. (eds) Phenomenology of Space and Time. *Analecta Husserliana* (The Yearbook of Phenomenological Research), vol 117. Springer, 2014.

PhD candidate

Abdolreza Rashno

Affiliation
Isfahan University of Technology / IRAN

Profile

BS degree in Computer Engineering from Shahid Chamran University of Ahvaz, Iran, in 2009, and MSc degree (with honors) in Artificial Intelligence Engineering from Kharazmi University of Tehran, Iran, in 2011. Currently, Ph.D. candidate of Computer Engineering at Isfahan University of Technology, Iran, and visiting researcher student at University of Minnesota, USA.

Research Interests

Medical Image Processing and Analysis; Image Segmentation; Content-Based Image Retrieval; Image Restoration Evolution Computing; Machine Learning; Neutrosophic Set and Logic.

List of Publications in Neutrosophics

Rashno, Abdolreza, Dara D. Koozekanani, Paul M. Drayna, Behzad Nazari, Saeed Sadri, Hossein Rabbani, and Keshab K. Parhi. "Fully-Automated Segmentation of Fluid/Cyst Regions in Optical Coherence Tomography Images with Diabetic Macular Edema using Neutrosophic Sets and Graph Algorithms." *IEEE Transactions on Biomedical Engineering* (2017).

Rashno, Abdolreza, Keshab K. Parhi, Behzad Nazari, Saeed Sadri, Hossein Rabbani, Paul Drayna, and Dara D. Koozekanani. "Automated intra-retinal, sub-retinal and sub-RPE cyst regions segmentation in age-related macular degeneration

(AMD) subjects." *Investigative Ophthalmology & Visual Science*, Vol. 58, no. 8 (2017).

Parhi, Keshab K., Abdolreza Rashno, Behzad Nazari, Saeed Sadri, Hossein Rabbani, Paul Drayna, and Dara D. Koozekanani. "Automated Fluid/Cyst Segmentation: A Quantitative Assessment of Diabetic Macular Edema." *Investigative Ophthalmology & Visual Science*, Vol. 58, No. 8 (2017).

Rashno, Abdolreza, and Saeed Sadri. "Content-based image retrieval with color and texture features in neutrosophic domain." IEEE International Conference on Pattern Recognition and Image Analysis (IPRIA), pp. 50-55. IEEE, 2017.

Heshmati, Abed, Maryam Gholami, and Abdolreza Rashno. "Scheme for unsupervised colour–texture image segmentation using neutrosophic set and non-subsampled contourlet transform." *IET Image Processing* 10, no. 6 (2016): 464-473.

A. Rashno, D. D. Koozekanani, P. Drayna, B. Nazari, S. Sadri, H. Rabbani and K. K. Parhi, Fully-Automated Segmentation of Fluid Regions in Exudative Age-Related Macular Degeneration Subjects: Kernel Graph Cut in Neutrosophic Domain, in revision - Plos One, 2017.

PhD Candidate

Mridula Sarkar

Assistant Professor in Mathematics

Affiliation
Department of Mathematics
Indian Institute of Engineering Science and Technology
Shibpur, P.O-Botanic Garden
Howrah - 711103,West Bengal / INDIA

Profile

Bachelor of Science in Mathematics in 2009 from University of Calcutta and Master of Science in Applied Mathematics in 2011 from Bengal Engineering and Science University,Shibpur,West Bengal, India. Thesis submitted for the award of the degree of Doctor of philosophy in Mathematics to Indian Institute of Engineering Science and Technology, Shibpur under the supervision of Prof. Tapan Kumar Roy (Dept. of Mathematics, IIESTS) and Tapash Kumar Roy (Dept. of Civil Engineering, IIESTS). In 2017, joined as Assistant Professor in Department of Mathematics in Bankura Sammilani College, Bankura, West Bengal, India.

Research Interests

Neutrosophic Set; Neutrosophic Numbers; Neutrosophic Decision Making, Neutrosophic Goal Programming; Parametrized Neurosophic Nonlinear Programming; Structural Design Optimization.

Neutrosophic Research

Contributed 10 papers in different International Journals and 1 chapter in "Neutrosophic Operational Research", Volume 1, on neutrosophic optimization. Investigated structural design optimization as application of neutrosophic optimization and decision making. Studied neutrosophic set and neutrosophic numbers with their properties, neutrosophic decision making, single-objective neutrosophic optimization technique, multi-

objective neutrosophic optimization technique, neutrosphic goal programming technique, parameterized neutrosophic nonlinear programming in perspective of structural designs optimization.

List of Publications in Neutrosophics

International Journal Articles

M. Sarkar, S. Dey, T. K. Roy. (2016). Truss Design Optimization using Neutrosophic Optimization Technique, *Neutrosphic Sets and Systems*, 13,62-69,2016.

M. Sarkar, T. K. Roy. (2017). Truss Design Optimization using Neutrosophic Optimization Technique: A Comparative Study, *Advances in Fuzzy Mathematics*, 12(3), 411-438.

M. Sarkar, S. Dey, T. K. Roy. (2016). Neutrosophic Optimization Technique and its Application on Structural Design, *Journal of Ultra Scientist of Physical Sciences*, 28(6), 309-321.

M. Sarkar, S. Dey, T. K. Roy. (2016). Multi-Objective Neutrosophic Optimization Technique and its Application to Structural Design, *International Journal of Computer Applications*, 148(12), 31-37.

M. Sarkar, T. K. Roy. (2017). Multi-Objective Welded Beam Optimization using Neutrosophic Goal Programming Technique, *Advances in Fuzzy Mathematics*, 12(3),515-538.

M. Sarkar, T. K. Roy. (2017). Truss Design Optimization with Imprecise Load and Stress in Neutrosophic Environment, *Advances in Fuzzy Mathematics*, 12(3), 439-474.

M. Sarkar, S. Dey, T. K. Roy. (2017). Multi-Objective Structural Design Optimization using Neutrosophic Goal Programming Technique, *Neutrosophic Sets and Systems*, 15, 8-17.

M. Sarkar, T. K. Roy. (2017). Optimization of Welded Beam with Imprecise Load and Stress by Parameterized Neutrosophic Optimization Technique. *Journal of Ultra Scientist of Physical Sciences*, 29(6), 220-242.

M. Sarkar, S. Ghosh, T. K. Roy. (2017). Multi-Objective Welded Beam Optimization using Neutrosophic Optimization Technique: A Comparative Study. *Journal of Ultra Scientist of Physical Sciences*, 29(6), 243-263.

M. Sarkar, T. K. Roy. (2017). Optimization of Welded Beam Structure using Neutrosophic Optimization Technique:A Comparative Study. *International Journal of Fuzzy Systems*, DOI: 10.1007/s40815-017-0362-6.

Chapter in Book

M. Sarkar, T. K. Roy, F. Smarandache, M. Mohamed, M. A. Baset, A. N. Hesian, I. M. Hezam, W. K. M. Braurers, A. Balezentis, T. Balezentis, Das, Y Zhou, M. G. Gafar, I. E. Henawy. W. A. Omeri, "Neutrosophic Operational Research", Pons Publishing House, 2017, Vol. 1, 93-106, ISBN978-1-59973-520-7.

Dr.

Prem Kumar Singh

Assistant Professor

Affiliation
Amity Institute of Information Technology
Amity University-201313
Noida / INDIA

Profile

Assistant Professor in the Department of Amity Institute of Information Technology, Amity University, Noida. Post Doctorate degree from Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur. PhD degree in Computer Science from VIT University, Vellore. Published more than 25 research papers in various peer reviewed indexed journals and conferences.

Research Interests

Data Analytics; Cognitive Computing; Graph Analytics; Soft Computing.

Neutrosophic Research

Complex Neutrosophic Set; Neutrosophic Set; Neutrosophic Graph; N-Way Neutrosophic Context; Neutrosophic Lattice.

List of Publications in Neutrosophics

Prem Kumar Singh, Medical diagnoses using three-way fuzzy concept lattice and their Euclidean distance, *Computational and Applied Mathematics* (Accepted for 2017 publication).

Prem Kumar Singh, Concept learning using vague concept lattice, *Neural Processing Letters*, Springer, Impact Factor 1.6, 2017, DOI: 10.1007/s11063-017-9699-y, ISSN-1370-4621 (Print).

Prem Kumar Singh, Interval-valued neutrosophic graph representation of concept lattice and its (α, β, γ)-

decomposition, *Arabian Journal for Science and Engineering*, 2017, DOI: 10.1007/s13369-017-2718-5, ISSN: 2193-567X.

Prem Kumar Singh, Complex vague set based concept lattice, *Chaos, Solitons and Fractals*, Elsevier 96 (2017) 145–153, DOI:10.1016/j.chaos.2017.01.019, ISSN: 0960-0779.

Prem Kumar Singh, Three-way fuzzy concept lattice representation using neutrosophic set, *International Journal of Machine Learning and Cybernetics*, Springer, year 2017, vol 8, Issue 1, pp. 69-79, DOI: 10.1007/s13042-016-0585-0, ISSN: 1868-8071 (print version).

Dr.

Dragisa Stanujkic

Associate Professor

Affiliation
Technical Faculty in Bor
University of Belgrade
Bor / SERBIA

Profile

Associate Professor of Information Technology at the Technical Faculty in Bor, University of Belgrade. MSc degree in Information Science and PhD in Organizational Sciences from the Faculty of Organizational Sciences, University of Belgrade. Published papers in reputed journals, such as *Informatica, Technological and economic development of economy, Journal of business economics and management, Studies in informatics and control, Inzinerine Ekonomika - Engineering Economics*, etc.

Research Interests

Decision-making Theory; Informatics; Expert Systems and Intelligent Decision Support Systems.

List of Publications in Neutrosophics

Urosevic, S., Stanujkic, D., Karabasevic, D., & Brzakovic, P. (2018). Using single valued neutrosophic set to select tourism development strategies in eastern Serbia. *Economics of Agriculture*, 65(2), 555-568.

Stanujkic, D., Zavadskas, E. K., Smarandache, F., Brauers, W. K. M., & Karabasevic, D. (2017). A Neutrosophic Extension of the MULTIMOORA Method. *Informatica*, 28(1), 181-192. http://dx.doi.org/10.15388/Informatica.2017.125

Stanujkic, D., Smarandache, F., Zavadskas, E. K., & Karabasevic, D. (2017). An Approach to Measuring the Website Quality Based on Neutrosophic Sets. In "New Trends in Neutrosophic Theory and Applications", Vol. II, 40-50.

Stanujkic, D., Smarandache, F., Zavadskas, E. K., & Karabasevic, D. (2016). Multiple Criteria Evaluation Model Based on the Single Valued Neutrosophic Set. *Neutrosophic Sets and Systems*, 14, 3-6.

Zavadskas, E. K., Baušys, R., Stanujkic, D., & Magdalinovic-Kalinovic, M. (2016). Selection of lead-zinc flotation circuit design by applying WASPAS method with single-valued neutrosophic set. *Acta Montanistica Slovaca*, 21(2), 85-92.

Dr.

I. R. Sumathi

Assistant Professor

Affiliation
Department of Mathematics
Kumaraguru College of Technology
Coimbatore, Tamilnadu / INDIA

Profile

PhD in Mathematics from Bharathiar University. Eight years of teaching experience in the field of Mathematics. Currently working as Assistant Professor at Kumaraguru College of Technology, Coimbatore, Tamilnadu, India.

Research Interests

Fuzzy Set; Neutrosophic set; Soft set; Topology.

List of Publications in Neutrosophics

Papers

I. Arockiarani, I.R. Sumathi, J. Martina Jency. Fuzzy Neutrosophic soft topological spaces, *IJMA*, 4(10) 2013., 225-238.

I. Arockiarani, I.R. Sumathi, On (a,b,g)-Cut Fuzzy Neutrosophic Soft Sets, *IJMA* 5(1), 2014, 263-272.

I. Arockiarani, I.R. Sumathi, A fuzzy neutrosophic soft matrix approach in decision making, *JGRMA*, Vol 2, No.2, 14-23, Feb 2014.

I. Arockiarani, I.R. Sumathi, Some results on Interval valued fuzzy neutrosophic soft sets, *IJIRS*, Vol 3, Issue 5, 386-405, May 2014.

I. Arockiarani, I.R. Sumathi, New operations on Interval valued fuzzy neutrosophic soft sets, *AARJMD*, Vol 1, Issue 22, June 2014.

I. Arockiarani, I.R. Sumathi, Interval Valued Fuzzy Neutrosophic Soft Structure Spaces, *NSS*, Vol 5, 2014.

I.Arockiarani and I.R.Sumathi, An application of generalized interval valued fuzzy neutrosophic soft set in decision making , *IJMER*, Vol 3 , Issue 9(1) Sept 2014 Page No;21-39.

I.R. Sumathi, I. Arockiarani, New operations on fuzzy neutrosophic soft matrices, *IJIRS*, Vol 3, Issue 12, 106-120, Dec 2014.

I.R. Sumathi, I. Arockiarani, Fuzzy Neutrosophic soft matrix model in decision making, *Elixir International Journal of Applied Mathematics*, 78(2015) 29666 – 29673.

I.R. Sumathi, I. Arockiarani, Fuzzy Neutrosophic groups, *Advances in Fuzzy Mathematics*, 10(2)(2015) ,117-122.

I.R. Sumathi, I. Arockiarani, Topological group structure of Fuzzy Neutrosophic set, *Journal of Advanced Studies in Topology* 7:1 (2016), 12-20.

I.R. Sumathi, I. Arockiarani, Fuzzy neutrosophic soft set measures, *International Journal of Advanced Research*, 4(1) (2016), 934-940.

I.R. Sumathi, I. Arockiarani, Cosine similarity measures of neutrosophic soft set, *Annals of Fuzzy Mathematics and Informatics*, 12(5) (2016), 669-678

*International Conference*s

I.R. Sumathi, I. Arockiarani, Some results on Fuzzy Neutrosophic soft matrices, International Conference on Recent trends in Discrete Mathematics and its applications to Science and Engineering held on Dec 3rd 2013, Periyar Maniammai University, Vallam, Thanjavur, India.

I.R. Sumathi, I. Arockiarani, Fuzzy Neutrosophic soft matrix theory, 79th Annual Conference of Indian Mathematical Society, Dec (28 – 31) 2013, held at Rajagiri School of Engineering & Technology, Kerela, India.

I.R. Sumathi, I. Arockiarani, 'Generalized interval valued fuzzy neutrosophic soft set ICM 2014- International conference Madurai Kamaraj University, Madurai, Aug 21-23, 2014, India.

I.R.Sumathi and I.Arockiarani 'D-Algebras of fuzzy neutrosophic set', India-Taiwan Cooperation(2015)- International workshop on intelligent data analysis techniques (IWIDAT 2015) held on 17th March 2015 at Department of Mathematics, Ramanujan School of Mathematical Sciences,

Pondicherry University (A central university of India) Pondicherry-605014, India.

National Conferences

I.R. Sumathi and I. Arockiarani, 'A fuzzy neutrosophic soft matrix model in decision making', UGC – sponsored National conference on "Emerging trends in advanced mathematics" Jyothi Nivas College (Autonomous), Bangalore on Feb 6th and 7th 2014, India.

I.R. Sumathi and I. Arockiarani, 'Fuzzy Neutrosophic soft set measures', DST-sponsored National conference on Mathematics and Computer Applications NCMCA-12th and 13th January 2015, Women's Christian College, Chennai, India.

I.R. Sumathi and I. Arockiarani, 'A note on Fuzzy Neutrosophic soft semi-open set', UGC-sponsored National conference on Computational and applied Mathematics NCCAM-2015 held on 7th February 2015, at Erode Arts and Science College (Autonomous), Erode, India.

I.R. Sumathi and I. Arockiarani 'Fuzzy Neutrosophic soft multiset theory', UGC-sponsored National conference on Recent Developments in Topology, NSRDT-2015 held on 11th and 12th February 2015 at Sri Sarada College for Women (Autonomous), Salem, India.

Dr.

Mehmet Şahin

Associate Professor

Affiliation
Faculty of Mathematics
University of Gaziantep
Gaziantep / TURKEY

Profile

Born in 1965 in Adıyaman, Turkey. Received the MS degree of the Haccettepe University in 1994, and PhD degree of the Karadeniz Technical University in 2004. Associate Professor since 1991 at the Department of Mathematics, University of Gaziantep. Author of more than twenty scientific papers on mathematics. Member of the editorial board of four journals.

Research Interests

Fuzzy Sets; Soft Sets; Neutrosophic Sets; Neutrosophic Soft Sets; Neutrosophic Soft Expert Sets; Interval Valued Neutrosophic Soft Sets; Generalized Neutrosophic Sets.

Neutrosophic Research

Currently looking forward to develop Neutrosophic Theory in the parlance of Soft Set Theory. Interested in various aspects of algebra and analysis in the ground of neutrosophic soft set theory and its implementation in solving real life decision making problems.

List of Publications in Neutrosophics

V. Uluçay, Şahin, M., Olgun, N. and Kılıçman, A. (2017). On neutrosophic soft lattices, *Afrika Matematika*, 28(3), 379–388.

M. Şahin, Ecemiş, O., Uluçay, V., and Deniz, H. (2017). Refined neutrosophic hierarchical clustering methods. *Asian Journal of Mathematics and Computer Research* 15(4), 283–295.

M. Şahin, Ecemiş, O., Uluçay, V., and Kargın A. (2017). Some new generalized aggregation operators based on centroid single valued triangular neutrosophic numbers and their applications in multi-attribute decision making. *Asian Journal of Mathematics and Computer Research* 16(2), 63–84.

M. Şahin, Olgun, N., Ulucay,V., Kargın, A. and Smarandache, F. (2017). A New Similarity Measure Based on Falsity Value between Single Valued Neutrosophic Sets Based on the Centroid Points of Transformed Single Valued Neutrosophic Values with Applications to Pattern Recognition. *Neutrosophic Sets and Systems*, 15(1), 31–48.

M. Şahin, Alkhazalleh, S. and Ulucay,V., (2015). Neutrosophic Soft Expert Sets, *Applied Mathematics*, 6(1), 116–127.

PhD Candidate

Bianca-Mădălina Teodorescu

Affiliation
Affiliation
University of Craiova
13 A. I. Cuza Street
Craiova / ROMANIA

Profile

Graduate of the Faculty of Letters of Craiova, University of Craiova (Romania), and currently a PhD Candidate at the same faculty. Published several articles in scientific journals in Romania, Poland and Australia, and is author and co-author of two books, published in Germany and Belgium.

Research Interests

Anthropology, Neutrosophy, Communication.

List of Publications in Neutrosophics

Teodorescu, B. (2014). A neutrosophic mirror between communication and information. In: "Communication Neutrosophic Routes", 206.

Teodorescu, M., & Teodorescu, B. (2015). Between True and False, Scientific Uncertainty: Neutrosophy by Argumentation, 69.

Smarandache, F., Teodorescu, B., & Teodorescu, M. (2016). Uncertainty Communication Solution in Neutrosophic Key.

Dr.

Ramalingam Udhayakumar

Assistant Professor

Affiliation
Dept. of Mathematics
School of Advanced Sciences
Vellore Institute of Technology (VIT)
Vellore - 632 014
Tamil Nadu / INDIA

Profile

Post-Doctoral Fellow in Mathematics (2016). Doctor of Philosophy in Mathematics (2015). Master of Philosophy in Mathematics (2009). Master of Science in Mathematics (2008). Bachelor of Science in Mathematics (2006).

Research Interests

Homological Algebra, General Topology.

List of Publications in Neutrosophics

M. Parimala, Florentin Smarandache, S. Jafari and R. Udhayakumar, On neutrosophic $\alpha\psi$-closed sets, *Information*, Vol. 9(5), 103, (2018). Scopus.

M. Parimala, M. Karthika, S. Jafari, Florentin Smarandache and R. Udhayakumar, Decision-Making via Neutrosophic Support Soft Topological Spaces, *Symmetry*, Vol. 10 (6), 217, (2018), 1-10. SCIE, Impact Factor: 1.256.

M. Parimala, R. Jeevitha, S.Jafari, Florentin Smarandache and R. Udhayakumar, Neutrosophic $\alpha\psi$-Homeomorphism in Neutrosophic Topological Spaces, *Information*, (2018). Accepted for publication.

Dr.

Vakkas Uluçay

Affiliation
Faculty of Mathematics
University of Gaziantep
Gaziantep / TURKEY

Profile

Born in 1985 in Gaziantep, Turkey. Received the MS degree from the Gaziantep University in 2008-2010, and PhD degree of the Gaziantep University in 2013-2017.

Research Interests

Fuzzy Sets; Soft Sets; Neutrosophic Sets; Neutrosophic Soft Sets; Neutrosophic Soft Expert Sets; Neutrosophic Multi Criteria Making; Refined Set; Neutrosophic Graph Theory; Interval Valued Neutrosophic Soft Sets, Generalized Neutrosophic Sets.

Neutrosophic Research

Innovative research in decision making and optimization in uncertain environment, namely fuzzy, intuitionistic and neutrosophic environment.

List of Publications in Neutrosophics

V. Uluçay, Deli, İ. and Şahin, M. (2016). Similarity measures of bipolar neutrosophic sets and their application to multiple criteria decision making. *Neural Computing and Applications*, 1-10, DOI: 10.1007/s00521-016-2479-1.

V. Uluçay, Deli, İ. and Şahin, M. (2016). Trapezoidal fuzzy multi-number and its application to multi-criteria decision-making problems. *Neural Computing and Applications*, 1-10., DOI: 10.1007/s00521-016-2760-3.

V. Uluçay, Şahin, M., Olgun, N. and Kılıçman, A. (2017). On neutrosophic soft lattices. *Afrika Matematika*, 28(3), 379–388.

M. Şahin, Ecemiş, O., Uluçay, V., and Deniz, H. (2017). Refined neutrosophic hierarchical clustering methods. *Asian Journal of Mathematics and Computer Research* 15(4), 283–295.

M. Şahin, Ecemiş, O., Uluçay, V., and Kargın A. (2017). Some new generalized aggregation operators based on centroid single valued triangular neutrosophic numbers and their applications in multi-attribute decision making. *Asian Journal of Mathematics and Computer Research* 16(2), 63–84.

M. Şahin, Olgun, N., Ulucay, V., Kargın, A. and Smarandache, F. (2017). A New Similarity Measure Based on Falsity Value between Single Valued Neutrosophic Sets Based on the Centroid Points ofTransformed Single Valued Neutrosophic Values withApplications to Pattern Recognition. *Neutrosophic Sets and Systems*, 15(1), 31–48.

M. Şahin, Alkhazalleh, S. and Ulucay, V., (2015). Neutrosophic Soft Expert Sets, *Applied Mathematics*, 6(1), 116–127.

Dr.

Maikel Yelandi Leyva Vázquez

Professor

Affiliation
Carrera de Ingeniería en Sistemas Computacionales
Universidad de Guayaquil
Guayaquil / ECUADOR

Profile

Doctor en CienciasTécnicas (PhD in Technical Sciences) from University of Informatics Sciences, Havana, Cuba, 2013. Master en Bioinformática (MSc in Bioinformatics) from Higher Institute of Applied Science and Technology (INSTEC), Havana, 2007. Informatics Engineering from Higher Polytechnical Institute "José A. Echeverría" and University de Holguín, 2005. Professor at the University of Guayaquil, Ecuador, since 2015. Director of the Data Management Software Development Centre (DATEC), University of Informatics Sciences (2009-2011). In September 2015, recipient of the Price to Young Researcher, National Minister of Science and Technology, Cuba. In 2012, recipient of the Cuban Academy of Sciences Award. Directed Master and PhD theses in Bioinformatics, Applied Informatics and Technical Sciences.

Research Interests

Neutrosophic and Fuzzy Cognitive Maps; Computing with words (CWW); Social Network Analysis; Softcomputing for decision support and knowledge discovery.

Neutrosophic Research

Multicriteria Decision Support using SVN numbers; Static Analysis of Neutrosofic Cognitive Maps; Knowledge Based Recommender Systems.

Leyva Vázquez, Maikel, Smarandache, Florentin. Neutrosofía: Nuevos avances en el tratamiento de la incertidumbre: Pons Publishing House / Pons asbl; 2018.

Maikel Leyva Vázquez. Toma de decisiones empleando números SVN Decision making using SVN numbers. *Neutrosophic Computing and Machine Learning*, 2018.

Leyva-Vázquez M, Escobar-Jara R, Smarandache F. Modelos mentales y mapas cognitivos neutrosóficos Mental models and neutrosophic cognitive maps. *Neutrosophic Computing and Machine Learning*, 2018.

Smarandache F, Leyva-Vázquez M. Fundamentos de la lógica y los conjuntos neutrosóficos y su papel en la inteligencia artificial. *Neutrosophic Computing and Machine Learning*, 2018.

Antepara EJ, Gamboa JE, Santin RE, Méndez MR, Leyva-Vázquez M. Competencias de los profesionales de Ingeniera en Sistemas en el mercado laboral. Análisis basado en mapas cognitivos neutrosóficos. *Neutrosophic Computing and Machine Learning*, 2018.

Padilla RC, Ruiz JG, Alava MV, Vázquez ML. Modelo de recomendación basado en conocimiento empleando números SVN. *Neutrosophic Computing and Machine Learning*, 2018.

Henríquez Antepara EJ, Arzube A, Omar O, Arroyave C, Arturo J, Alvarado Unamuno EA, Leyva Vazquez M. Competencies evaluation based on single valued neutrosophic numbers and decision analysis schema. *Neutrosophic Sets and Systems*, Jul 2017.

Padilla RC, Ruiz JG, Alava MV, Vázquez ML. A Knowledge-based Recommendation Framework using SVN Numbers. *Neutrosophic Sets and Systems*. Apr 2017.

Vera, Pablo José Menéndez, and Cristhian Fabián Leyva Menéndez Vázquez. Las habilidades del marketing como determinantes que sus-tentaran la competitividad de la Industria del arroz en el cantón Yaguachi. Aplicación de los números SVN a la priorización de estrategias. *Neutrosophic Sets and Systems*, vol. 14/2016: (2016): 70.

Betancourt-Vázquez A, Leyva-Vázquez M, Perez-Teruel K. Neutrosophic cognitive maps for modeling project portfolio interdependencies. *Critical Review*, 2015 Jun 1; 10:40-4.

Betancourt-Vázquez A, Pérez-Teruel K, Leyva-Vázquez M. Modeling and analyzing non-functional requirements interdependencies with neutrosofic logic. *Neutrosophic Sets and Systems*, 2015:44.

Pérez-Teruel K, Leyva-Vázquez M. Neutrosophic logic for mental model elicitation and analysis. *Neutrosophic Sets and Systems*, 2012:30.

Leyva-Vazquez M, Perez-Teruel K, Smarandache F. Análisis de textos de José Martí utilizando mapas cognitivos neutrosóficos. In: "Neutrosophic Theory and Its Applications. Collected Papers"; 1:463-7.

This is the second volume of the *Encyclopedia of Neutrosophic Researchers*, edited from materials offered by the authors who responded to the editor's invitation.

The authors are listed alphabetically, and represent the following countries: Angola, Argentina, P.R. China, Denmark, Dominican Republic, Ecuador, Egypt, India, Iraq, Iran, Jordan, South Korea, Morocco, Nigeria, Pakistan, Romania, Serbia, Syria, Turkey, S.R. Vietnam.

The introduction contains an updated *history of neutrosophics*, together with *links* to the most important papers and books.

Neutrosophic set, neutrosophic logic, neutrosophic probability, neutrosophic statistics, neutrosophic measure, neutrosophic precalculus, neutrosophic calculus and so on are gaining significant attention in solving many real life problems that involve uncertainty, impreciseness, vagueness, incompleteness, inconsistent, and indeterminacy.

In the past years, the fields of neutrosophics have been extended and applied in various fields, such as: artificial intelligence, data mining, soft computing, decision making in incomplete / indeterminate / inconsistent information systems, image processing, computational modelling, robotics, medical diagnosis, biomedical engineering, investment problems, economic forecasting, social science, humanistic and practical achievements.

ISBN 978-1-59973-614-3